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U. S. DEPARTMENT OF THE INTERIOR
PROTOTYPE OIL SHALE LEASING PROGRAM

OIL SHALE TRACT C-b
ENVIRONMENTAL MONITORING REPORT
(June 1983 through November 1983)

Submitted to:

Mr. Robert Elderkin
Acting Oil Shale Supervisor
Oil Shale Project Office
USDI Bureau of Land Management
131 N. 6th Street - Suite 300
Grand Junction, Colorado

By:

CATHEDRAL BLUFFS SHALE OIL COMPANY

TENNECO SHALE OIL COMPANY
OCCIDENTAL OIL SHALE, INC.

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VOLUME II

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INTRODUCTION

Regular environmental reporting for Oil Shale Tract C-b during the interim monitoring period consists of six-month data reports submitted February 15, 1983, July 15, 1983, and January 15, 1984. Limited data analyses are included in the February 1983 and January 15, 1984 reports.

The Interim Monitoring Program was initiated in March 1982. The data reported here fulfill the environmental monitoring requirements specified for the interim monitoring period by the OSPO. Data are reported for the period of June 1983 to November 1983. Data stored in the computerized data base and summary tables presented in this report are correct to the best of our knowledge. Any errors found in previously reported data appear in the Data Corrections section.

Data not previously reported for dates prior to this report period are presented in the Supplemental Data Sections for meteorology, air quality, hydrology and lab analyses.

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1.3 Air Quality and Meteorology

The Air Quality Monitoring Program has been developed to measure background levels of atmospheric gaseous and particulate constituents and meteorological processes which affect transport and diffusion.

The air quality monitoring network during the Interim Monitoring Period (shown on Figure 1.3-1) includes the following:

- One air quality trailer at Station AB23 that has been in continuous operation since September, 1974 (prior to the 2 year Baseline Program).
- One 60-meter meteorological tower located at Station AA23 (adjacent to air quality trailer AB23), also operational since September, 1974. Meteorological parameters are monitored at the 10-meter, 30-meter, and 60-meter levels.
- Weighing-bucket rain gauge at Station AB23.
- Weighing-bucket rain gauge at Station AD28 (leachate pile).

Parameters measured at these stations are listed in Table 1.3-1. Missing data codes for air quality and meteorology are listed in Table 1.3-2. These codes are used on the diurnal tables to explain reasons for instrument down time.

Six monthly data reports (June - November 1983) are included in this document. These contain all the basic data used for the summaries and analyses reported in the following sections.

All monitoring stations are referenced by their four-digit computer codes. A cross-reference of the computer code and station I.D. appear in Section 3.0 (Data Automation).



FIGURE 1.3-1
Ambient Air Quality
Interim Monitoring Network

TABLE 1.3-1

AIR QUALITY AND METEOROLOGICAL MEASUREMENTS

<u>Station AA23</u>	<u>Sampling Frequency</u>	<u>Minimum Reporting Frequency</u>
Tower: (@ 10m, 30m, 60m)	5 sec	1 Hr Avg
Wind Speed	5 sec	1 Hr Avg
Wind Direction	5 sec	1 Hr Avg
Temperature	5 sec	1 Hr Avg
Delta Temp (60-10m)	5 sec	1 Hr Avg
<u>Station AB23</u>		
Trailer: NO	5 sec	1 Hr Avg
NO _x	5 sec	1 Hr Avg
NO ₂	NO _x -NO	1 Hr Avg
O ₃	5 sec	1 Hr Avg
SO ₂	5 sec	1 Hr Avg
H ₂ S	5 sec	1 Hr Avg
CO	5 sec	1 Hr Avg
Barometric Pressure	5 sec	1 Hr Avg
Solar Radiation	5 sec	1 Hr Avg
Relative Humidity	5 sec	1 Hr Avg
Particulates	24 Hr every 4 Days	24 Hr Avg
Precipitation	Continuous	1 Hr Total
<u>Station AD28</u>		
Precipitation	Continuous	1 Hr Total

TABLE 1.3-2
AIR QUALITY AND METEOROLOGICAL MISSING DATA CODES

Code	Description
CA	Calibration (calibration, system check)
CM	Calm (no wind direction when wind speed = 0)
IM	Instrument Malfunction (instrument failures)
IN	Interference (CO ₂ interference on sulfur data, SO interference in oxidant readings)
FO	Flame Out (on the GC - THC, HC, CH ₄ , CO)
LI	Local Interference (car nearby)
MT	Maintenance (changing paper, tape, charcoal)
NV	Not Visible (values were not within range of instrument, i.e., inversion heights may exist beyond the full scale of the Acoustic Radar)
OE	Operator Error (Field tech leaves switch in wrong position)
OR	Out for Repair (instrument removed from site with no replacement)
OS	Off Scale
PF	Power Failure (generator failure)
RF	Recording System Failure (chart jams, runs out, clock stop)
SE	Special Experiment
SR	System Removed
TR	Trace of Precipitation
TS	Temporary Monitoring Shutdown due to Operations Conflict
UN	Unlimited Ceiling (reported by NWS Stations)
	Blank (causes a space to be printed as in the beginning of a new month before a component starts)
VA	Variable Wind Direction
WR	Weather Related Malfunction (instrument freezes, temperature readings below instrumental detection)

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AMBIENT
AIR QUALITY



1.3.1 Ambient Air Quality

The monitoring program for air quality was carried out in accordance with the provisions of the Interim Monitoring Plan approved by the Oil Shale Project Office (OSPO). During this reporting period ambient air station AB23 monitored gaseous constituents and particulate concentrations.

Station AB23 data are presented for June - November, 1983. Station AB26 was monitored through July 27, 1982. Data from this station are to be reported on an "as can" basis, and no data have been reported after March 1982. No data are reported in this document.

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TABLE 1.3.1-1

QUARTERLY SUMMARY (APRIL - JUNE 1983)

(µg/m³)

STATION AB23

Parameter	Average*	Maximum 24-hour Value Date	Maximum 8-hour Value Date	Maximum 3-hour Value Date	Maximum 1-hour Value Date	Time
H ₂ S	1.8				14	06/09/83 1400
S _O ₂	1.8	5.9 06/13/83 2200		9.6 04/23/83 1000	10	(1)
Particulate	14.0	27.9 05/26/83 0100				
O ₃	78.9				135.4	06/02/83 1600
NO _x	0.3				21	04/22/83 0900
NO	0.6				11	04/22/83 0900
NO ₂	0.2				6	04/06/83 2000
CO	52.8		80 (2)		100	(3)

(1) Maximum 1-hour SO₂ concentration occurred three times: 04/23/83 @ 1000 and 1200; 04/24/83 @ 1600.

(2) Maximum 8-hour concentration occurred >5 times; see June sliding average table for times of occurrences.

(3) Maximum 1-hour CO concentration occurred two times: 05/04/83 @ 0800 and 05/10/83 @ 0800

* Arithmetic

TABLE 1.3.1-2
QUARTERLY SUMMARY (JULY - SEPTEMBER 1983)

($\mu\text{g}/\text{m}^3$)

STATION AB23

Parameter	Average	Maximum 24-hour Value Date	Maximum 8-hour Value Date	Maximum 3-hour Value Date	Maximum 1-hour Value Date
H ₂ S	1.4				8 (1)
SO ₂	2.5	10.8 08/15/83 2200		13.1 (2)	16 (3)
Particulate	22.5	46.9 09/19/83			119.7 08/06/83 1700
O ₃	70.7				6 (4)
NO _x	1.2				2 (5)
NO	0.7				6 (6)
NO ₂	0.6				140 07/28/83 0800
CO	41.2		80 07/28/83 0100		

(1) Maximum 1-hour H₂S concentration occurred 3 times: 08/30/83 @ 1400, 1700, and 09/30/83 @ 1500.

(2) Maximum 3-hour SO₂ concentration occurred 3 times: 08/14/83 @ 0600, 08/16/83 @ 0200, 09/26/83 @ 2400.

(3) Maximum 1-hour SO₂ concentration occurred 3 times: 07/28/83 @ 1600, 08/17/83 @ 1300 and 09/27/83 @ 0100.

(4) Maximum 1-hour NO_x concentration occurred 5 times: 08/17/83 @ 0900, 08/18/83 @ 1100, 08/19/83 @ 0100, 0200 and 2300.

(5) Maximum 1-hour NO concentration occurred >5 times; refer to monthly diurnal tables for times of occurrence.

(6) Maximum 1-hour NO₂ concentration occurred 5 times: 08/17/83 @ 0900, 08/18/83 @ 1100, 08/19/83 @ 0100, 0200, and 2300.

TABLE 1.3.1-3
 AMBIENT AMBIENT GASEOUS AND PARTICULATE CONCENTRATIONS
 STATION AB23
 1983

MONTH	CONSTITUENT (UG/M3)								
	NO	NOX	NO2	O3	CO	SO2	H2S	PARTIC	
JAN	0.9	3.0	1.9	66.4	32.7	2.6	2.1	1.8	
FEB	0.1	1.3	1.1	71.9	36.0	2.1	1.3	2.2	
MAR	0.9	1.1	0.6	68.8	50.5	2.1	0.8	5.2	
APR	0.6	0.6	0.2	41.3	50.0	2.6	1.5	4.7	
MAY	0.5	0.2	0.2	78.8	49.1	1.6	1.5	16.6	
JUN	0.6	0.2	0.2	76.6	59.2	1.3	2.5	15.0	
JUL	0.6	0.2	0.0	69.0	47.8	2.9	1.3	22.4	
AUG	0.7	1.5	0.9	70.4	41.4	2.0	1.5	19.3	
SEP	0.7	1.5	0.8	72.7	57.5	2.1	1.4	25.4	
OCT	0.6	2.1	1.3	64.5	49.9	3.9	2.1	10.0	
NOV	0.6	4.1	3.2	63.1	33.2	0.3	0.1	5.0	
YEARLY AVERAGE	0.6	1.4	0.9	71.2	43.1	2.2	1.5	12.2	

TABLE 1.3.1-3
MAXIMUM CONCENTRATIONS OF NO_x, 1983
Station AB23

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-Hour Maximum												
Value (µg/m ³)	11	8	6	21	6	4	4	6	6	13	9	
Date	1/21/83	2/03/83	(1)	4/22/83	5/02/83	6/25/83	(2)	(1)	9/03/83	10/26/83	(1)	
Time (MST)	1200	1900		0900	0800	1800			1000	1000		
Wind Direction(DEG)	325	266	58	106	CALM	155	170		316	327		
Wind Speed (MPS)	1	1	1	1	CALM	4	2		1	1		

(1) Maximum concentration occurred >5 times: refer to monthly diurnal table.

(2) Maximum concentration occurred 2 times: 7/21/83 @ 2200 and 7/31/83 @ 0700.

TABLE 1.3.1-4
MAXIMUM CONCENTRATIONS OF NO_x 1983
Station AB23

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-Hour Maximum												
Value (µg/m ³)	4	*	4	11	*	*	*	*	*	4	*	
Date	(1)		3/07/83	4/22/83						10/13/83		
Time			2400	0900						0700		
Wind Direction(DEG)	319		171	106						107		
Wind Speed (MPS)	1		0	1						2		

* Monthly maximum concentration was <25% higher than average daily peaks for the month, and is therefore not reported on this table. Monthly diurnal tables report 1-hour peaks.

(1) Maximum concentration occurred 3 times: 1/20/83 @ 1200; 1/21/83 @ 1100 and 1200.

TABLE 1.3.1-5

MAXIMUM CONCENTRATIONS OF NO₂, 1983

Station AB23

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-Hour Maximum Value ($\mu\text{g}/\text{m}^3$)	9	8	6	6	4	*	*	6	*	9	8	
Date	1/01/83	2/03/83	(1)	4/06/83	(2)			(3)		10/26/83	(3)	
Time	1300	1900		2000						1000		
Wind Direction(DEG)	320	266	72	19	CALM					327		
Wind Speed (MPH)	1	1	1	1	CALM					1		

* Monthly maximum concentration was <25% higher than average daily peaks for the month, and is therefore not reported on this table. Monthly diurnal tables report 1-hour peaks.

(1) Maximum concentration occurred 3 times: 3/09/83 @ 1700; 3/10/83 @ 1000; and 3/11/83 @ 0100.

(2) Maximum concentration occurred 2 times: 5/02/83 @ 0800; 5/08/83 @ 0900.

(3) Maximum concentration occurred >5 times: refer to monthly diurnal table.

TABLE 1.3.1-6
MAXIMUM CONCENTRATIONS OF O₃, 1983
Station AB23

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-Hour Maximum												
Value (µg/m ³)	122	*	120	108	116	135	118	120	116	*	*	
Date	1/19/83		3/29/83	(1)	5/11/83	6/02/83	7/11/83	8/06/83	09/03/83			
Time (MST)	1600		1600		1100	1600	1700	1700	1400			
Wind Direction(DEG)	201		315	191	225	132	339	9	221			
Wind Speed (MPS)	4		1	7	7	1	2	3	5			

* Monthly maximum concentration was <25% higher than average daily peaks for the month and is therefore not reported on this table. Monthly diurnal tables report 1-hour peaks.

(1) Maximum concentration occurred 3 times: 4/18/83 @ 1100, 1200 and 1600.

TABLE 1.3.1-7

MAXIMUM CONCENTRATIONS OF CO, 1983

Station AB23

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-Hour Maximum												
Value ($\mu\text{g}/\text{m}^3$)	100	70	90	*	100	*	140	80	*	*	60	
Date (MST)	(1)	2/17/83	3/16/83		(2)		7/28/83	8/01/83			(1)	
Wind Direction (DEG)	210	0900	1000		42		0800	0700				
Wind Speed (MPS)	1	82	CALM		1		CALM	140				
		1	CALM				0	2				
8-Hour Maximum												
Value ($\mu\text{g}/\text{m}^3$)	100	*	70	*	*	*	80	70	*	*	60	
Date (MST)	(1)		3/31/83				7/28/83	8/01/83			(1)	
Wind Direction (DEG)	191		1500				0100	0100				
Wind Speed (MPS)	1		346				99	129				
			3				2	2				

* Monthly maximum concentration was <25% higher than average daily peaks for the month, and is therefore not reported on this table. Monthly diurnal tables report 1-hour peaks. Monthly sliding average tables report 8-hour maximums.

(1) Maximum CO concentration occurred >5 times: refer to monthly diurnal table.

(2) Maximum CO concentration occurred 2 times: 5/04/83 @ 0800 and 5/10/83 @ 0800.

TABLE 1.3.1-8
MAXIMUM CONCENTRATIONS OF SO₂, 1983

Station AB23

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-Hour Maximum Value (µg/m ³)	10.0 (1)	10.0 (2)	10.0 (1)	10.0 (4)	8 (6)	8 (7)	16 7/28/83 0800 CALM	16 8/17/83 1300 279 1	16 9/27/83 0100 185 5	16 (10)	5 11/03/83 1400 244 3	
Time (MST)												
Wind Direction(DEG)	184	327	332	222	20	81	0					
Wind Speed (MPH)	2	1	5	2	1	1						
3-Hour Maximum Value (µg/m ³)	9.6 1/05/83 1200	9.6 2/04/83 1000	10.5 (3)	9.6 4/23/83 1000	7.9 5/24/83 1800	6.1 6/14/83 1600	8.7 (8)	13.1 (9)	13.1 9/26/83 2400	14 10/12/83 0900	*	
Time (MST)												
Wind Direction(DEG)	196	337	CALM	222	295	311			203	320		
Wind Speed (MPH)	5	1	CALM	2	4	1			4	1		
24-Hour Maximum Value (µg/m ³)	7.7 1/06/83 1200	7.2 2/03/83 1600	9.1 3/16/83	5.9 (5)	5.5 5/23/83 0800	4.7 6/28/83 1400	6.5 7/26/83 0200	10.8 8/15/83 2200	10.5 9/26/83 0700	9.9 10/11/83 1900	*	
Date												
Wind Direction(DEG)	218	335	CALM	205	CALM	290	138	150	145	66		
Wind Speed (MPH)	4	3	CALM	1	CALM	6	1	2	2	2		

* Monthly maximum concentration was <25% higher than average daily peaks for the month, and is therefore not reported on this table. Monthly sliding average tables report 3-hour and 24-hour peaks.

- (1) Maximum 1-hour concentration occurred 5 times: refer to monthly table.
- (2) Maximum 1-hour concentration occurred 3 times: 2/4/83 @ 1000, 1200 and 1500.
- (3) Maximum 3-hour concentration occurred 2 times: 3/16/83 @ 1000 and 1300.
- (4) Maximum 1-hour concentration occurred 3 times: 4/23/83 @ 1000, 1200 and 4/24/83 @ 1600.
- (5) Maximum 24-hour concentration occurred 2 times: 4/22/83 @ 2100 and 4/24/83 @ 0600.
- (6) Maximum 1-hour concentration occurred 8 times: refer to monthly table.
- (7) Maximum 1-hour concentration occurred 2 times: 6/28/83 @ 1900 and 6/29/83 @ 0300.
- (8) Maximum 3-hour concentration occurred 3 times: 7/27/83 @ 1100; 7/28/83 @ 0600, and 7/29/83 @ 1400.
- (9) Maximum 3-hour concentration occurred 2 times: 8/14/83 @ 0600 and 8/16/83 @ 0200.
- (10) Maximum 3-hour concentration occurred 2 times: 10/12/83 @ 0900 and 1300.

TABLE 1.3.1-9
MAXIMUM CONCENTRATIONS OF H₂S, 1983
Station AB23

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-Hour Maximum Value ($\mu\text{g}/\text{m}^3$)	8	10	7	6	8	8	6	8	8	10	4	
Date	1/21/83	2/22/83	3/31/83	*	(1)	(2)	*	(3)	9/30/83 1500	(4)	11/14/83 1300	
Time (MST)	1000	1600	1400									
Wind Direction(DEG)	8	323	345	344	CALM				208		320	
Wind Speed (MPH)	0	1	4	2	CALM				5		3	

* Maximum concentration occurred >5 times: refer to monthly diurnal table.
(1) Maximum concentration occurred 2 times: 5/23/83 @ 0500, 5/24/83 @ 1200.
(2) Maximum concentration occurred >5 times: refer to monthly diurnal table.
(3) Maximum concentration occurred 2 times: 8/30/83 @ 1700 and 1900.
(4) Maximum concentration occurred 2 times: 10/02/83 @ 2000 and 2100.

TABLE 1.3.1-10
24-HOUR MAXIMUM CONCENTRATIONS OF PARTICULATES, 1983
Station AB23

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
24-Hour Maximum Value ($\mu\text{g}/\text{m}^3$) Date	2.8 1/10/82	5.3 2/03/83	18.6 3/03/83	19.6 4/24/83	27.9 5/26/83	27.2 6/23/83	34.3 7/05/83	27.8 8/10/83	46.9 9/19/83	18.3 10/29/83	18.5 11/02/83	

AB23 PARTICULATE CONCENTRATION

DEC '82 - FEB '83

TOTAL # 3" GALS DISTRIBUTED 10,000

TOTAL NO. OF DAILY SAMPLES = 20

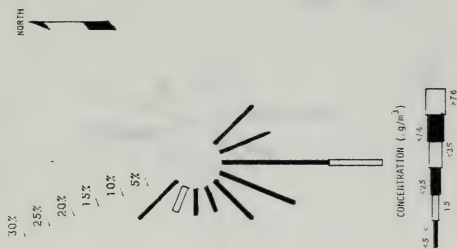


FIGURE 1.3.1-1

AB23 PARTICULATE CONCENTRATION

MAR '83 -- MAY '83

TOTAL # OF GALS DISTRIBUTED TO QJF:

TOTAL NO. OF DAILY SAMPLES -- 18

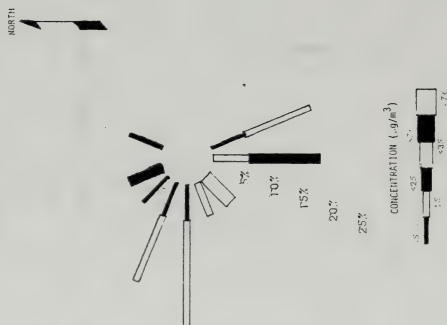


FIGURE 1.3.1-2

AB23 PARTICULATE CONCENTRATION

JUN '83 - AUG '83

TOTAL # OF SITES DISTRIBUTED 10-100%

TOTAL NO. OF DAILY SAMPLES 10

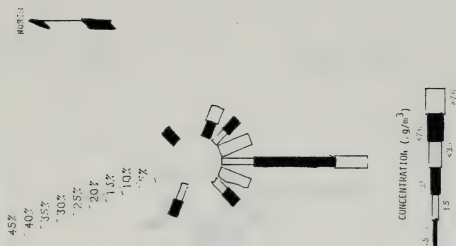


FIGURE 1.3.1-3

AB23 PARTICULATE CONCENTRATION

SEP '83 - NOV '83

TOTAL % OF GAINS DISTRIBUTED 10.30%

TOTAL NO. OF DAILY SAMPLES = 22

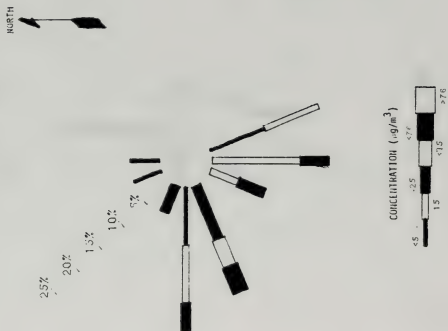


FIGURE 1.3.1-4

AB23 PARTICULATE CONCENTRATION

DEC '82 - NOV '83

TOTAL # OF GALS DISTRIBUTED 10,000*

TOTAL NO. OF DAILY SAMPLES - 84



FIGURE 1.3.1-5

1.3.2 Meteorology

During this reporting period meteorological parameters were monitored at Station AA23. Station AA23 is a 60-meter meteorological tower, colocated by air quality trailer AB23. Data are collected at the 10-meter, 30-meter, and 60-meter levels.

Monitoring at Station AB26 was discontinued on July 27, 1982. This station is required to be reported on an "as can" basis, and no data have been reported after March 1982. No data from Station AB26 are reported in this document.

1.3.2.1 Climatological Records

This section presents low altitude climatological data for temperature, relative humidity, and direct solar radiation. The Colorado climatological data for temperature are also presented here. No data for snowfall and snow depth are available at report time.

<u>Table No.</u>	<u>Description</u>	<u>Page No.</u>
Table 1.3.2.1-1	Temperature and Relative Humidity, Station AA23	II-26
Table 1.3.2.1-2	Direct Solar Radiation at Station AB23	II-27

Colorado Climatological Data

Table 1.3.2.1-3	Minimum Temperature, Station WR01	II-28
Table 1.3.2.1-4	Maximum Temperature, Station WR01	II-29
Table 1.3.2.1-5	Minimum Temperature, Station WR02	II-30
Table 1.3.2.1-6	Maximum Temperature, Station WR02	II-31

Figure 1.3.2.1-1 shows monitoring stations presented

in this section.

TABLE 1.3.2.1-1
 TEMPERATURE AND RELATIVE HUMIDITY SUMMARY - 10 METRE LEVEL
 STATION AB23
 1942-1983

MONTH	TEMPERATURE (DEGREES C)			RELATIVE HUMIDITY (%)		
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	AVERAGE
DEC 1982	9.4	-20.0	-4.3	100.0	0.0	52.5
JAN 1983	13.3	-15.1	-1.8	98.0	2.0	38.7
FEB	14.4	-15.0	-1.2	100.0	24.0	65.4
MAR	17.8	-11.7	1.0	100.0	24.0	66.5
APR	18.3	-14.4	2.4	100.0	18.0	54.2
MAY	22.8	-3.3	7.9	100.0	12.0	52.8
JUN	27.8	0.6	14.2	100.0	20.0	51.7
JUL	31.1	4.4	19.2	96.0	20.0	47.1
AUG	32.8	9.4	20.2	97.0	29.0	52.0
SEP	30.6	-6.7	15.9	100.0	17.0	46.0
OCT	21.1	-4.4	8.4	100.0	20.0	53.6
NOV	20.0	-16.7	0.6	100.0	18.0	53.1

TABLE 1.3.2.1-2

Station AB23
Direct Solar Radiation

Month/ Year	Total Langley's For Month	Average Day- light Hr/Day	Daylight Hours/ Month	Uptime Day- light Hr/Mo.*	Daily Total/Day of The Month	
					Monthly Highest	Monthly Lowest
12/82	1503	10	310	81	259/4	100/9
1/83	4271	10	310	211	269/20	133/28
2/83	7190	11	308	308	398/24	131/14
3/83	701	11	372	24	386/2	286/1
4/83	10750	12	390	273	628/17	290/13
5/83	11562	14	434	339	675/7	247/16
6/83	15736	15	450	442	730/21	105/12
7/83	16918	15	465	440	737/4	280/27
8/83	15175	14	434	434	644/6	283/14
9/83	12641	13	390	390	560/5	133/30
10/83	8537	12	372	372	407/4	51/24
11/83	5005	10	300	300	291/4	44/8

* Channel "uptime" is given for reference only.

STATION: WR01

MINIMUM TEMPERATURE (Deg. F)

 YEAR: 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-16	12	28		28	34	38	51	39			
2	-17	1	25		29	32	39	49	43			
3	-17	-1	20		26	31	47	51	44			
4	-6	-2	22		24	32	32	51	48			
5	9	14	28		28	33	33	50	37			
6	20	-	25		30	27	44	49	37			
7	20	7	17		24	31	53	53	33			
8	12	15	20		28	30	51	53	37			
9	10	19	18		34	35	53	53	43			
10	4	12	19		20	40	49	53	42			
11	5	-	23		30	40	36	56	33			
12	1	0	27		24	41	35	54	31			
13	-1	17	20		19	30	42	50	31			
14	2	25	30		20	26	55	48	32			
15	-	14	23	NO DATA	28	33	47	49	34			
16	1	22	13		32	36	36	48	29			
17	13	12	21		28	34	39	49	36			
18	19	18	22		23	36	45	49	37			
19	11	25	6		27	38	55	49	55			
20	5	10	7		22	34	55	48	15			
21	9	-	9		26	34	47	44	13			
22	14	0	18		28	38	49	40	16			
23	14	10	24		30	40	55	37	26			
24	6	12	12		30	51	44	37	39			
25	22	16	22		32	49	46	42	31			
26	10	21	10		32	44	53	43	30			
27	14	20	14		36	52	52	38	41			
28	17	29	15		35	49	49	43	28			
29	9	/	15		33	40	46	45	39			
30	12	/	20		42	39	47	46	41			
31	7	/	24		28		53	40				
AVG	7.0	13.1	19.3		28.3	37.0	46.0	47.4	34.7			

STATION: WRO1

MAXIMUM TEMPERATURE (Deg. F)

YEAR: 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	21	27	43	47	50	57	77	89	87			
2	23	25	49	38	44	69	76	82	87			
3	28	28	54	49	49	65	77	80	86			
4	28	28	47	36	60	66	72	83	87			
5	39	31	43	33	57	69	75	84	72			
6	44	-	40	34	64	60	85	86	78			
7	49	32	44	39	49	65	93	88	81			
8	37	44	43	38	60	67	84	88	86			
9	47	39	42	41	71	74	79	89	77			
10	36	42	47	50	68	75	80	90	87			
11	40	-	58	55	74	73	75	91	81			
12	45	-	64	51	58	82	74	84	80			
13	40	51	54	40	56	46	81	78	79			
14	45	51	60	38	50	54	87	82	81			
15	-	35	39	42	48	65	93	85	84			
16	40	42	34	48	52	72	90	86	78			
17	38	44	38	53	46	79	86	86	82			
18	41	41	40	61	45	77	86	86	83			
19	35	52	32	56	51	82	91	86	78			
20	35	37	32	58	52	84	84	82	82			
21	37	-	30	59	55	81	91	78	53			
22	40	41	40	48	70	84	84	82	68			
23	35	45	41	52	62	83	81	85	74			
24	35	50	42	66	70	84	71	85	68			
25	37	52	41	68	74	72	81	84	70			
26	36	45	35	61	76	72	83	82	74			
27	39	28	36	55	76	67	77	84	77			
28	46	45	41	56	77	69	72	86	76			
29	37	/	35	51	86	77	81	82	72			
30	41	/	42	51	76	76	86	76	72			
31	36	/	58		66		89	84				
Avg.	37.7	39.8	43.4	49.1	61.0	71.5	82.0	84.3	78.0			

STATION: WR02

MINIMUM TEMPERATURE (Deg. F)

YEAR: 1983

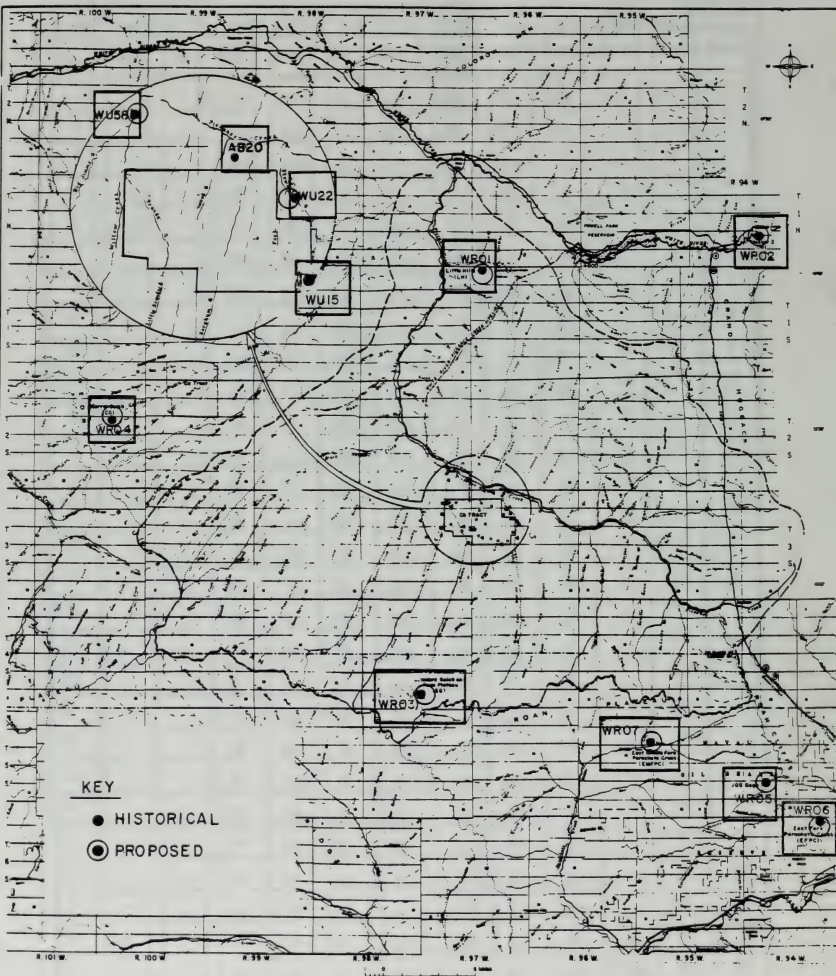
DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-5	15	32	25	32	38	43	54	48			
2	-4	5	31	20	32	40	49	54	53			
3	-1	0	25	21	33	37	52	54	49			
4	9	1	25	16	32	38	39	56	52			
5	28	18	32	13	37	40	40	55	44			
6	25	3	30	8	34	35	53	53	40			
7	32	10	19	12	29	36	55	56	43			
8	19	15	29	18	30	36	55	58	57			
9	20	27	23	27	39	38	56	56	49			
10	5	15	26	21	27	42	53	55	50			
11	11	6	29	29	41	42	56	57	40			
12	11	8	31	30	33	39	42	57	40			
13	8	16	27	22	27	37	47	53	41			
14	10	31	32	12	27	32	47	54	49			
15	10	12	27	16	27	36	45	57	42			
16	12	24	17	20	33	44	45	52	39			
17	22	11	25	20	31	42	48	56	44			
18	24	20	26	24	26	45	53	57	42			
19	13	29	17	34	34	47	57	53	52			
20	11	19	16	33	28	43	55	52	23			
21	15	5	18	37	32	46	50	50	22			
22	21	9	20	30	34	43	53	47	27			
23	15	11	31	23	34	50	54	47	39			
24	6	15	16	32	38	51	49	45	50			
25	26	25	25	33	39	52	51	50	38			
26	7	25	21	28	40	45	56	48	38			
27	17	30	16	37	42	55	53	47	46			
28	19	32	31	37	43	48	50	49	38			
29	10		21	34	40	43	52	51	44			
30	21		25	36	45	47	53	51	44			
31	8		30		35		55	47				
AVG.	13.7	15.6	24.9	24.9	34.0	42.2	50.5	52.6	42.8			

STATION: WR02

MAXIMUM TEMPERATURE (Deg. F)

YEAR: 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	29	28	52	42	48	63	80	80	87			
2	31	27	55	44	50	72	80	81	87			
3	32	32	54	41	54	70	75	82	86			
4	43	31	47	38	54	71	78	83	81			
5	45	34	42	37	62	65	89	86	79			
6	50	35	44	37	61	66	91	90	85			
7	49	38	45	40	61	72	87	90	85			
8	43	40	47	41	71	72	83	90	87			
9	43	43	45	52	65	70	80	90	83			
10	38	43	60	56	70	73	79	92	80			
11	45	38	61	50	68	78	78	90	82			
12	45	47	59	45	55	70	85	80	80			
13	49	49	58	43	55	58	85	83	83			
14	41	45	53	42	56	67	89	83	81			
15	50	42	38	47	55	75	86	86	80			
16	42	48	42	52	53	78	85	87	81			
17	46	48	42	59	47	80	87	85	83			
18	43	53	39	62	51	84	90	86	82			
19	34	49	37	56	53	82	87	83	76			
20	43	42	33	62	56	82	84	82	67			
21	39	42	43	62	65	83	87	84	69			
22	41	45	47	57	65	84	83	87	75			
23	35	45	43	64	72	84	77	83	72			
24	38	51	47	69	78	78	82	82	71			
25	34	49	37	63	77	76	84	83	77			
26	39	40	40	57	79	68	72	85	76			
27	50	44	42	54	82	67	76	88	73			
28	39	46	39	54	82	77	82	87	74			
29	42		46	53	80	77	88	76	75			
30	40		52	51	76	79	88	82	68			
31	40		57		65		82	85				
AVG.	41.2	41.9	46.6	51.0	63.4	74.0	83.2	84.9	78.8			



1.3.2.2 Precipitation

Precipitation was monitored at Stations AB23 and AD28 (leachate pile) during this reporting period.

USGS precipitation data are reported for Stations WR01, WR02, WR05, WR06 and WR07. Data for other stations are not available at report time.

Following is a list of tables included in this section:

<u>Table No.</u>	<u>Description</u>	<u>Page No.</u>
	Summary of Precipitation	
1.3.2.2-1	Station AB23	II-34
1.3.2.2-2	Station AD28	II-35
1.3.2.2-3	Station WR01, Little Hills	II-36
1.3.2.2-4	Station WR02, Meeker 2	II-37
1.3.2.2-5	Station WR05, JQS	II-38
1.3.2.2-6	Station WR06, EFP	II-39
1.3.2.2-7	Station WR07, EMFP	II-40

Figure 1.3.2.1-1 shows locations of monitoring stations presented in this section.

TABLE 1.3.2.2-1

SUMMARY OF PRECIPITATION: STATION AB23
(Measured with Weighing Rain Gauge)

(1982-1983) By Month

Item	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
1-Hour Maximum (cm)	.25	.05	(IM)	(IM)	(IM)	.04	.70	.51	.50	.30	.38	.03
Date	12/9/82	1/11/83				(1)	6/27/83	7/26/83	8/02/83	9/13/83	10/02/83	11/08/83
Time	2100	2000					1300 1400	1900	0900	0800	0900	1500 1700
24-Hour Maximum (cm)	.53	.11					1.40	1.20	.79	.59	.97	.14
Date	12/23/82	1/11/83					6/27/83	7/23/83	8/18/83	9/13/83	10/03/83	11/08/83
Total (cm)	2.49	.71*				(2)	4.82	3.37	2.04	.95	3.15	.37

(IM) Instrument mal function.

* Data missing for month; this total may be incomplete.

(1) 1-hour maximum occurred 2 times: 5/24/83 @ 0900, 1000.

(2) Data <25% for month.

TABLE 1.3.2.2-2

SUMMARY OF PRECIPITATION: STATION AD28

(Measured with Weighing Rain Gauge)

Item	By Month										
	(1982-1983)										
1-Hour Maximum (cm)	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Date	.23 (1)	.10 1/7/83	.23 2/19/83	.05 3/4/83	.03 (3)	.46 5/21/83	.69 6/25/83	1.70 7/22/83	.43 8/14/83	.13 (4)	.71 10/13/83
Time		1300	0700	2100		2100	1800	1700	1300		2300
24-Hour Maximum (cm)											
Date	.58 12/23/82	.33 1/25/83	1.37 2/19/83	.08 3/4/83	.05 4/18/83	1.70 5/17/83	1.98 6/26/83	2.03 7/22/83	.43 8/14/83	.28 9/4/83	1.40 10/02/83
Total (cm)	1.79(2)	.86	3.02 (2)	.11	.08	6.76	7.47	4.27	2.48 (3)	1.03 (5)	3.68
											4.11
											1.78
											11/08/83
											0200

(1) Maximum 1-Hour value occurred 2 times: 12/9/82 @ 2100, and 12/23/82 @ 2000.

(2) Total represents 86% of month. Instrument was not functioning for 14% of the total hours in month.

(3) Total represents 94% of month. Instrument was not functioning for 6% of the total hours in the month.

(4) Maximum 1-Hour value occurred 2 times: 9/3/83 @ 2300, and 9/4/83 @ 0500.

STATION: WRO1

PRECIPITATION (Inches)

YEAR: 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				.25	.41							
2				T		.04		.03	.15			
3				.32		.06	.04					
4									.47			
5			.32			.05		T				
6			.03									
7		T			.11	.03	.08					
8		T	.17				.02		T			
9		.12		.31		.03						
10		.02					.09					
11		.03						.22				
12			.02	.34		.41		.41				
13						.42		.14				
14		.10	.11									
15			.31					.24	T			
16			.03		.21							
17	T	T	.01		1.01			.08				
18	.03		.11		.06			.16				
19		.31	.04	.05	.23			.07	.02			
20		.12	.03		.06			.10	.02			
21				.05			.10					
22	.03			.06	.16		.07					
23	.01		.10	.01			.88					
24			.04			.10	.16		.07			
25	.13		.12			.18						
26	T	.11	.14			.59	.16					
27		.01				.53	.22					
28	T	.22	.03	.05		.04	.03	.02				
29			.04	.11				.03	T			
30	T			.34				.02				
31												
TOTAL	1.13	.04	1.65	1.89	1.08	2.48	1.85	1.52	.73			

STATION: WR02

PRECIPITATION (Inches)

YEAR: 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				.02	.29	.45		.03				
2					.32				T			
3				.27	.03							
4					.14			T	.42			
5		.15	.27									
6			T		.11							
7		T	.02									
8		.13	.04	.03		T						
9	.02	.07				.03						
10		.01				T		.07				
11								T				
12				.03		.55		.35				
13						.02		.33				
14		.11	.20				.01					
15			.15						T			
16					.38							
17	.02				.35							
18	.08		.06					.29				
19		.50		.09	.27				.01			
20							T	.15				
21				.09			.52					
22	.04			T			.50					
23							.52		.01			
24			.03			.02						
25	.13		.22				.08					
26		.05	.03			.34	.16					
27						.26	.10		T			
28	.02	.14	.03	.12								
29		/		.17		.02		.08				
30		/		.32					.09			
31		/	.22									
TOTAL	.31	1.16	1.27	1.14	1.89	1.69	1.89	1.30	.53			

STATION: JQS Precipitation (Inches)

YEAR: 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			.06	.06	.80	.05				.03		
2					.31			.03		.33		
3				.50	.08			1.12	.40	.12		
4		.03	.25	.01	.06			.02	.10			
5		.30	.28					.02				
6		.07	.07		.18	.16						
7	.11	.09										
8	.02	.22	.02	.05		.57	.09		.18			
9	.07	.05		.19		.03	.02	.05				
10					.04	.10						
11				.10	.03	.05		.10				
12			.06	.35		.56		.41				
13			.01			.30		.05				
14			.38		.22				.05			
15			.12		.47							
16		.07			1.25							
17			.31		.37			.45				
18	.08	1.03	.25		.37							
19	.01		.01	.03	.02			.44				
20	.01		.02				.75	.04				
21	.02			.20	.10							
22	.10		.02	.03								
23	.09		.36			.03			.14			
24	.03		.37		.03	.05						
25	.15	.14	.54			.34	.60					
26	.01	.11				.36			.11			
27	.02	.05		.15		.16	.04					
28	.05	.45	.24	.42		.43	.02					
29	.02			.18	.05	.02			.03			
30	.08			.92					.48			
31			.28									
TOTAL	.87	2.61	3.65	3.19	4.38	3.21	1.52	2.73	1.49			

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STATION: EFP

Precipitation (Inches)

YEAR: 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1		.01	.07	.09	.42	.05						
2			.01	.29	.22		.75	.04		.10		
3				.12	.06			.21	.35	.12		
4		.12	.23		.01			.05		.01		
5		.21	.15									
6		.02						.03				
7	.12	.15	.05									
8	.02	.20	.01	.19								
9	.01	.15		.01								
10		.05										
11		.01	.02	.14		.01						
12		.01	.01	.58		.54						
13			.05			.05						
14		.03	.31									
15			.16		.15							
16		.05	.02		1.40							
17	.01		.35		.16			.08				
18	.12	.30	.25	.03	.35			.01				
19		.51	.02	.14	.01			.39				
20				.21								
21	.01			.02	.10							
22	.10		.05				.04					
23	.05		.27			.10	.28					
24	.15		.42			.08		.02				
25	.08	.22	.41			.50	.44					
26		.15				.11						
27		.10		.33		.18	.03					
28	.05	.37	.21	.16								
29	.08			.40	.07			.08				
30				.80								
31			.21									
TOTAL	.80	2.62	3.28	3.51	2.95	1.62	.94	.91	.35			

STATION: EMFP

Precipitation (Inches)

YEAR: 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					.50							
2				.40	.29			.11				
3			.06	.10	.04				.07			
4		.10	.42	.04	.02			1.36	.22			
5		.10	.15				.05					
6		.03			.13	.13						
7	.10	.03	.01	.06			.04		.10			
8	.02	.06		.18		.31						
9		.03						.02				
10		.05						.07				
11			.02	.08				.05				
12				.02		.75		.77				
13			.06			.06						
14		.02	.32		.04							
15		.01	.06		.14							
16		.04	.02		.90		.02					
17	.04		.06		.63		.03	.11				
18	.01	.70	.07		.21		.05					
19			.01		.10		1.50					
20				.15			.05					
21	.06			.22	.16							
22	.02			.02			.41					
23			.10			.05			.21			
24	.08	.05	.23			.07	.13					
25		.03	.15			.45						
26		.02				.09						
27		.12	.13	.15		.26			.12			
28			.02	.08		.13						
29	.02			.28								
30				.41			.01					
31			.33									
TOTAL	.35	1.39	2.22	2.19	3.16	2.30	2.29	2.49	.72			

1.3.2.3 Wind Fields

This section presents the wind field data collected at the meteorological tower Station AA23. Data consist of wind speed, wind direction, vertical variations in horizontal wind speed and wind direction, and stability class. Wind flow patterns and stability class provide information for diffusion modeling and pollutant transport and concentration.

Following is a list of tables and figures included in this section:

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TABLE 1.3.2.3-1

METEOROLOGICAL SUMMARY: WIND SPEED & DIRECTION

10 METER LEVEL
STATION AA23

Item	By Month (1982-1983)											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Wind Speed, Hourly Maximum(MPS) &	10	9	12	8	8	11	8	9	7	9	10	10
Associated Direction (DEG)	216	217	177	209	216	217	(1)	246	(2)	(3)	192	(4)
Wind Speed, Hourly Average(MPS) &	3	2	2	2	3	3	3	3	2	3	2	3
Wind Direction, Hourly Average(DEG)	225	203	209	222	229	259	216	187	180	223	215	211

(1) Maximum wind speed occurred 5 times - See monthly diurnal table for times of occurrences.

(2) Maximum wind speed occurred 2 times - 8/10/83 @ 2000 and 8/18/83 @ 1800.

(3) Maximum wind speed occurred 3 times - 9/19/83 @ 0900, 1200 and 1700.

(4) Maximum wind speed occurred 3 times - 11/13/83 @ 0500, 0600 and 11/17/83 @ 1200.

TABLE 1.3.2.3-2

METEOROLOGICAL SUMMARY: WIND SPEED & DIRECTION

30 METER LEVEL
STATION AA23

(1982-1983) By Month

Item	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Wind Speed, Hourly Maximum(MPS) &	14	13	15	11	12	15	12	15	11	13	13	15
Associated Direction (DEG)	219	220	183	216	257	220	(1)	244	211	(2)	187	216
Wind Speed, Hourly Average(MPS) &	3	3	3	4	4	3	4	4	3	4	3	4
Wind Direction, Hourly Average(DEG)	227	208	222	229	240	264	215	185	175	227	223	208

(1) Maximum wind speed occurred twice - 6/1/83 @ 1400 and 6/11/83 @ 1400.

(2) Maximum wind speed occurred 3 times - 9/19/83 @ 0900, 1200 and 1700.

TABLE 1.3.2.3-3

METEOROLOGICAL SUMMARY: WIND SPEED & DIRECTION

60 METER LEVEL
STATION AA23

Item	By Month (1982-1983)											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Wind Speed, Hourly Maximum(MPS) ⊗ Associated Direction (DEG)	16 218	16 217	17 146	13 217	13 215	17 220	13 (1)	14 242	13 210	14 (2)	14 186	17 215
Wind Speed, Hourly Average(MPS) ⊗ Wind Direction, Hourly Average(DEG)	4 231	3 216	4 232	4 233	4 245	4 263	4 221	4 190	3 178	4 228	3 231	4 215

(1) Maximum wind speed occurred twice - 6/1/83 @ 1400 and 6/11/83 @ 1400.

(2) Maximum wind speed occurred 3 times - 9/19/83 @ 0800, 0900 and 1400.

TABLE 1.3.2.3-4

METEOROLOGICAL SUMMARY: VECTOR MONTHLY AVERAGES FOR WINDS

10 METER LEVEL
STATION AA23

Item	By Month (1982-1983)											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Wind Speed (MPS)	1.2	1.1	1.0	1.2	1.4	1.0	1.3	1.6	0.9	1.6	0.8	1.4
Wind Direction (DEG)	213	197	204	222	219	244	211	197	191	223	217	218

METEOROLOGICAL SUMMARY: VECTOR MONTHLY AVERAGES FOR WINDS

30 METER LEVEL
STATION AA23

Item	By Month											
	(1982-1983)											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Wind Speed (MPS)	1.8	1.6	1.4	1.7	1.9	1.5	1.9	2.2	1.2	2.3	1.2	2.0
Wind Direction (DEG)	211	200	210	116	224	251	207	193	181	217	214	214

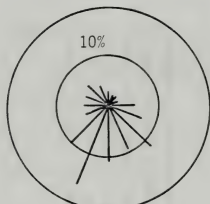
METEOROLOGICAL SUMMARY: VECTOR MONTHLY AVERAGES FOR WINDS

60 METER LEVEL
STATION AA23

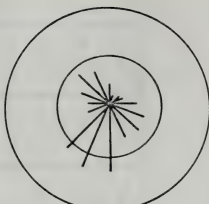
Item	By Month											
	(1982-1983)											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Wind Speed (MPS)	2.3	2.0	1.7	2.0	2.2	1.6	2.3	2.6	1.4	2.7	1.4	2.6
Wind Direction (DEG)	216	205	215	226	224	248	208	194	184	218	218	213

20%

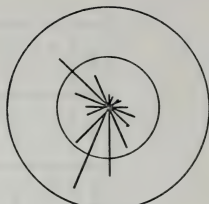
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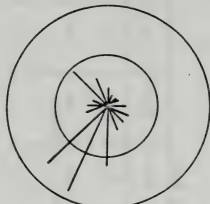
JANUARY



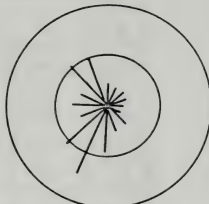
FEBRUARY



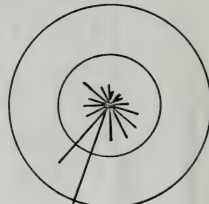
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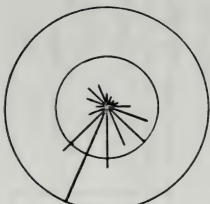
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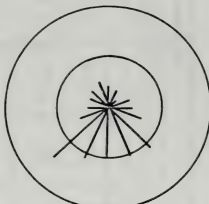
MAY



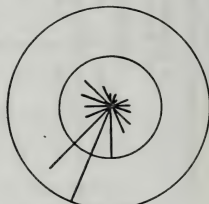
JUNE



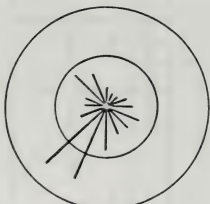
JULY



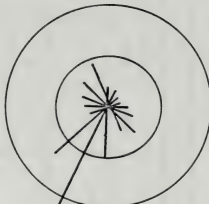
AUGUST



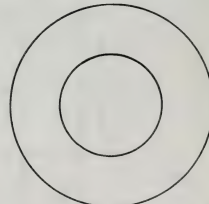
SEPTEMBER



OCTOBER



NOVEMBER



DECEMBER

FIGURE 1.3.2.3-1

STATION AB23 @ 10m ELEVATION WIND ROSES

II- 46



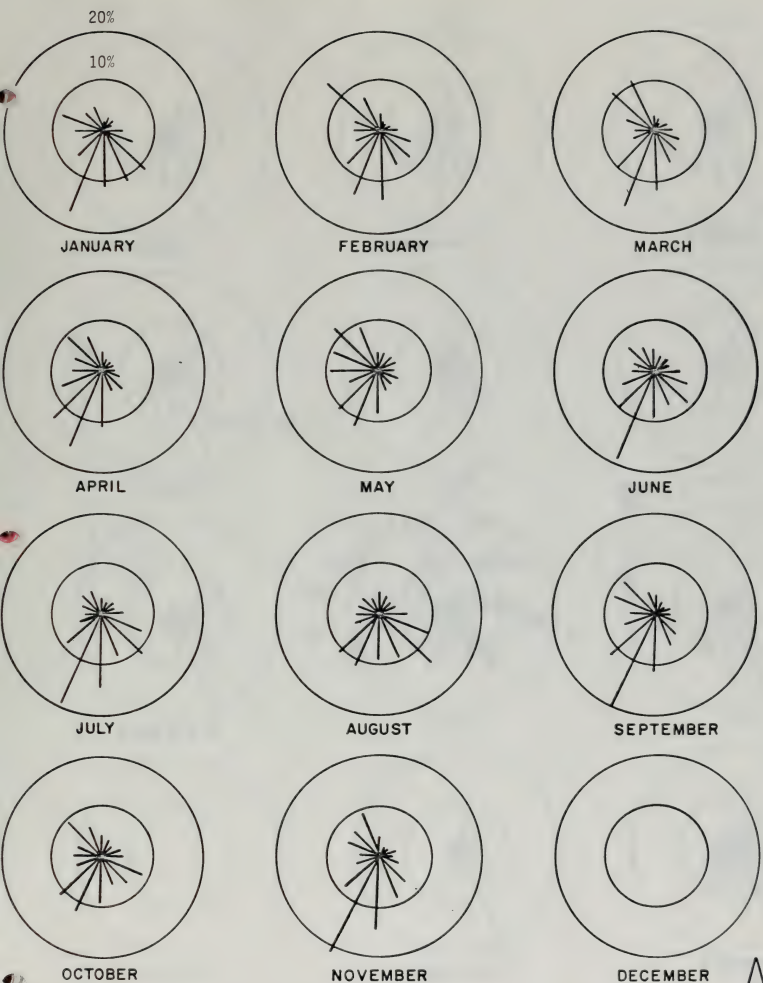
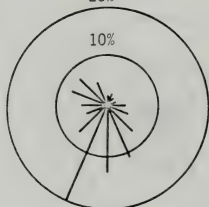


FIGURE 1.3.2.3-2

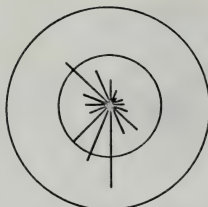


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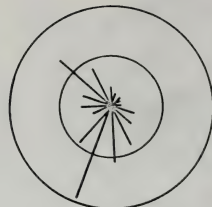
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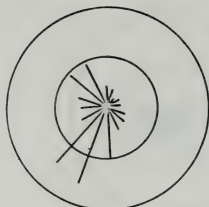
JANUARY



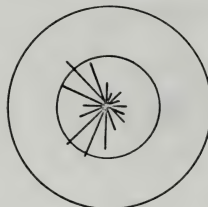
FEBRUARY



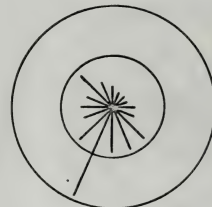
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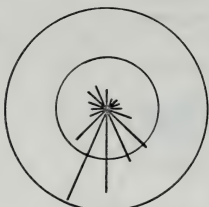
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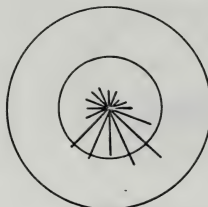
MAY



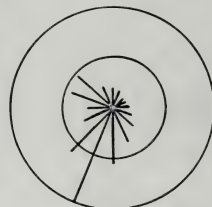
JUNE



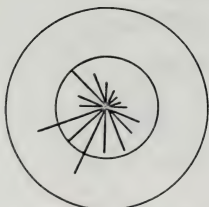
JULY



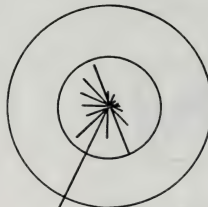
AUGUST



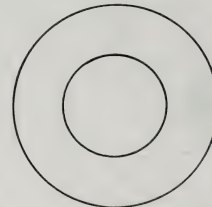
SEPTEMBER



OCTOBER



NOVEMBER



DECEMBER

FIGURE 1.3.2.3-3

STATION AB23 @ 60m ELEVATION WIND ROSES

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AA23 QUARTERLY WIND ROSE #10 M

DEC '82 - FEB '83

TOTAL % OF CALMS DISTRIBUTED 10.00%

TOTAL NO. OF 1-HOUR SAMPLES = 2021



FIGURE 1.3.2.3-4

A423 QUARTERLY WIND ROSE #30 M
 DEC '92 - FEB '93
 TOTAL # OF GALS DISTRIBUTED 10,027
 TOTAL NO. OF 1-HOUR SAMPLES - 2073

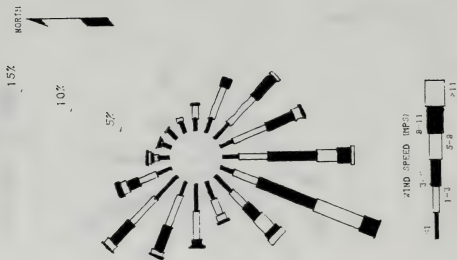


FIGURE 1.3.2.3-5

AA23 QUARTERLY WIND ROSE #03 M
DEC 1962 - FEB 1963

TOTAL # OF GAINS DISTRIBUTED 10,405
TOTAL NO. OF 1-HOUR SAMPLES = 1127

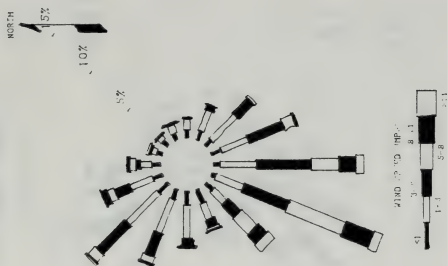


FIGURE 1.3.2.3-6

1423 QUARTERLY WIND ROSE #10 M
 MAR '33 -- MAY '33
 TOTAL # OF DAYS DISTRIBUTED 10.003
 TOTAL NO. OF 1-HOUR SAMPLES -- 2407

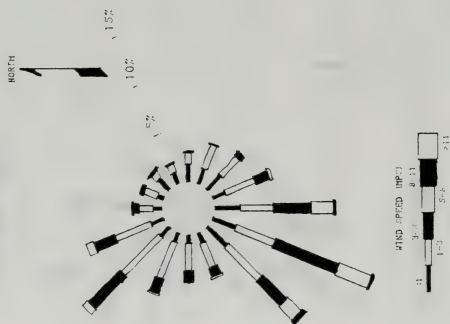


FIGURE 1.3.2.3-7

AX23 QUARTERLY WIND ROSE, S.D.M.

MAR '53 - MAY '53

TOTAL NO. OF CALLS OBSERVED - 30,000

TOTAL NO. OF 1-HOUR SAMPLES - 2113

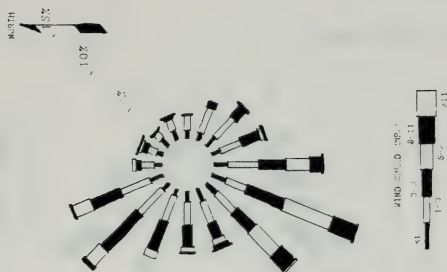


FIGURE 1.3.2.3-8

AA23 QUARTERLY WIND ROSE WFO M
 MAR 1953 - MAY 1953
 TOTAL 2 1/2 DAYS DISTRIBUTED 10.002
 TOTAL NO. OF 1-HOUR SAMPLES = 2194

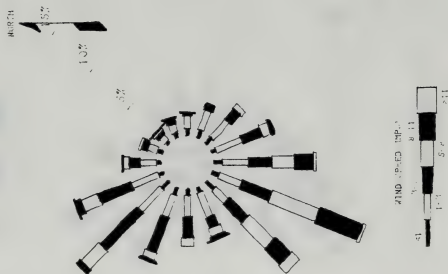


FIGURE 1.3.2.3-9

1A23 QUARTERLY WIND ROSE #10 M

JUN '83 AUG '83

TOTAL # OF CALMS OBSERVED 10,337

TOTAL NO. OF 1-HOUR SAMPLES = 4144



FIGURE 1.3.2.3-10

AA23 QUARTERLY WIND ROSE 000 M
 JUN '82 - AUG '83
 TOTAL 24 HOURS DISTRIBUTED SECTOR
 *TOTAL NO. OF 1-HOUR SAIL SECTORS = 144

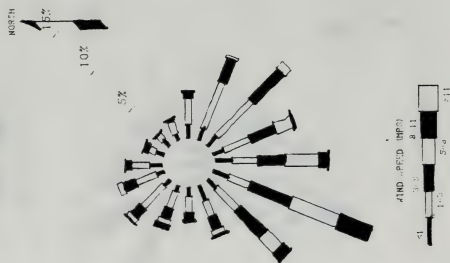


FIGURE 1.3.2.3-11

AA23 QUARTERLY WIND RO F 11. M
JUN '83 - AUG '83

TOTAL # OF WIND DISTRIBUTED DATA
TOTAL NO. OF 1-HOUR SAMPLES = 2159

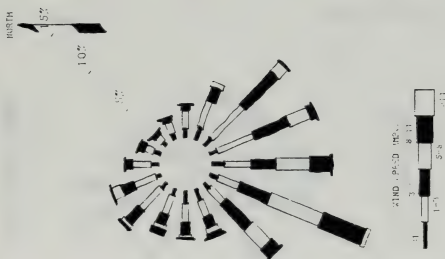


FIGURE 1.3.2.3-12

AA23 QUARTERLY WIND ROSE #10 M

SEP '93 - NOV '93

TOTAL # OF CALCS DISTRIBUTED 10,407

TOTAL NO. OF 1-HOUR SAMPLES - 4136



FIGURE 1.3.2.3-13

AA23 QUARTERLY WIND ROSE 010 M
SEP '83 -- NOV '83

TOTAL % OF CALCS DISTRIBUTED 30.30%
TOTAL NO. OF 1-HOUR SAMPLES = 2153

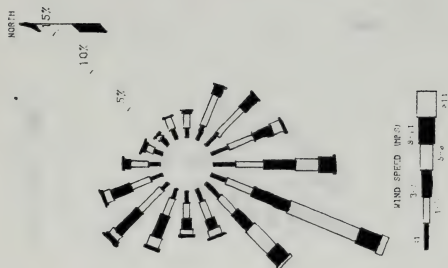


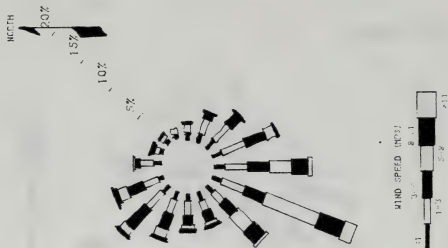
FIGURE 1.3.2.3-14

AA23 QUARTERLY WIND ROSE NO. 4

SEP 83 - OCT 83

TOTAL # OF GALS DISTRIBUTED 10,000

TOTAL NO. OF 1-HOUR SAMPLES = 2164



AA23 ANNUAL WIND ROSE 21.0 M
DEC '82 - NOV '83

TOTAL # OF GALS DISTRIBUTED 10,427
TOTAL NO. OF 1-HOUR SAMPLES = 8474



FIGURE 1.3.2.3-16

1A23 ANNUAL WIND ROSE #30 M

DEC '82 -- NOV '83

TOTAL # OF GAINS DISTRIBUTED 10-247

TOTAL NO. OF PAGES EMPLOYED 149

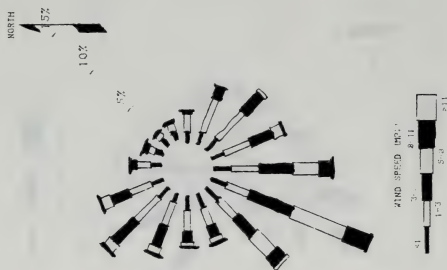


FIGURE 1.3.2.3-17

MAY'S ANNUAL WIND ROSE AND M
 D-70 1-1-61 - NOV 1963
 TOTAL NO. OF 1-HOUR SAMPLES = 448

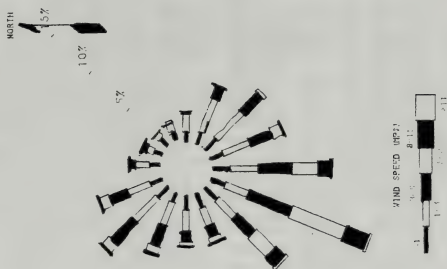


FIGURE 1.3.2.3-18

TABLE 1.3.2.3-5

AVERAGE HOURLY STABILITY CLASSES

SOURCE: Temperature difference between 60 meter and 10 meter levels on the met tower
(Adjusted for wind speed)

Month	HOUR																								Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Dec. 1982	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D
Jan. 1983	E	E	E	E	E	E	E	E	E	E	E	D	E	E	D	D	D	D	E	E	E	E	E	E	E
Feb.	E	E	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	E	E	E	E
Mar.	D	E	E	D	E	E	E	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D
April	E	E	E	E	E	E	E	D	D	D	D	C	C	C	C	C	C	C	D	D	E	D	E	E	D
May	D	E	E	D	E	E	E	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D
June	F	E	E	F	F	E	E	D	C	C	B	B	C	C	C	C	C	C	C	D	E	E	E	E	D
July	E	E	E	F	E	E	E	D	C	C	B	B	B	C	C	B	B	C	C	E	E	E	E	E	D
Aug.	E	E	E	F	E	E	E	D	C	B	B	B	B	B	B	B	B	B	C	D	E	D	E	E	D
Sept.	E	E	E	F	F	E	E	D	D	B	B	B	B	C	B	B	C	C	D	D	D	E	E	E	D
Oct.	F	F	F	F	F	F	F	E	E	C	B	B	B	B	B	B	C	D	E	E	F	F	F	F	D
Nov.	E	E	E	E	E	E	E	E	E	D	C	C	C	C	C	C	D	E	E	E	E	E	E	E	D

Key:

Unstable Class

Neutral

Stable Class



1.3.3 Visibility

The visibility monitoring program has been co-sponsored by the CB and Rio Blanco Shale Oil Projects. There are no state or federal requirements for visibility monitoring; however, the program is required under the Federal Oil Shale Lease Environmental Stipulations.

Figure 1.3.3-1 shows the four views used to monitor visual range.

In April 1983, the Oil Shale Project Office approved conversion from the photographic to the telephotometric method of data collection for the visibility study. "Equivalent" telephotometric data were required for the years that no telephotometric data were collected (1975-1978). All telephotometric basic visual range data by hour from 1975-1983 are reported in Table 1.3.3-1 in miles.

All data have been reduced using a contrast threshold of the eye (C_m) of 0.05 instead of 0.02. According to L. Tombach and D. Allard of Aerovironment¹, 0.05 is a more accurate estimate based on what the global public actually "sees." The telephotometric visual range data were reduced using both contrast thresholds, and the visual range values obtained were compared to the field technician's estimated visual range. The 0.05 contrast threshold values were substantially closer to the estimated visual range values, and therefore the 0.05 contrast ratio is the one used. The use of 0.05 results in values of visual range which are approximately 76.6% of those derived from use of 0.02.

The mean daily visual range by view is reported on Table 1.3.3-2. Table 1.3.3-3 shows average seasonal visual range.

Examination of data using object 8 in view 4 shows that this object yields very erratic and invalid data. Therefore, object 8 will no longer be used. Objects 6, 7, and 9 in view 4 were used to measure visual range.

¹ Tombach, I and D. Allard. Comparison of Visibility Measurement Techniques: Eastern United States, Aerovironment, Inc. October, 1983. Prepared for the Electric Power Research Institute. EA-3292. Research Project 862-15.

PICEANCE CREEK BASIN VISIBILITY STUDY CAMERA SITE AND VIEWS

VIEW:	I			II			III			IV		
OBJECT:	0	1	2	3	4	5	6	7	8	9	10	11
DISTANCE: (MILES)	29	54	24	42	10	37	17	26	46	56		

SCALE: 0 5 10 15 MILES

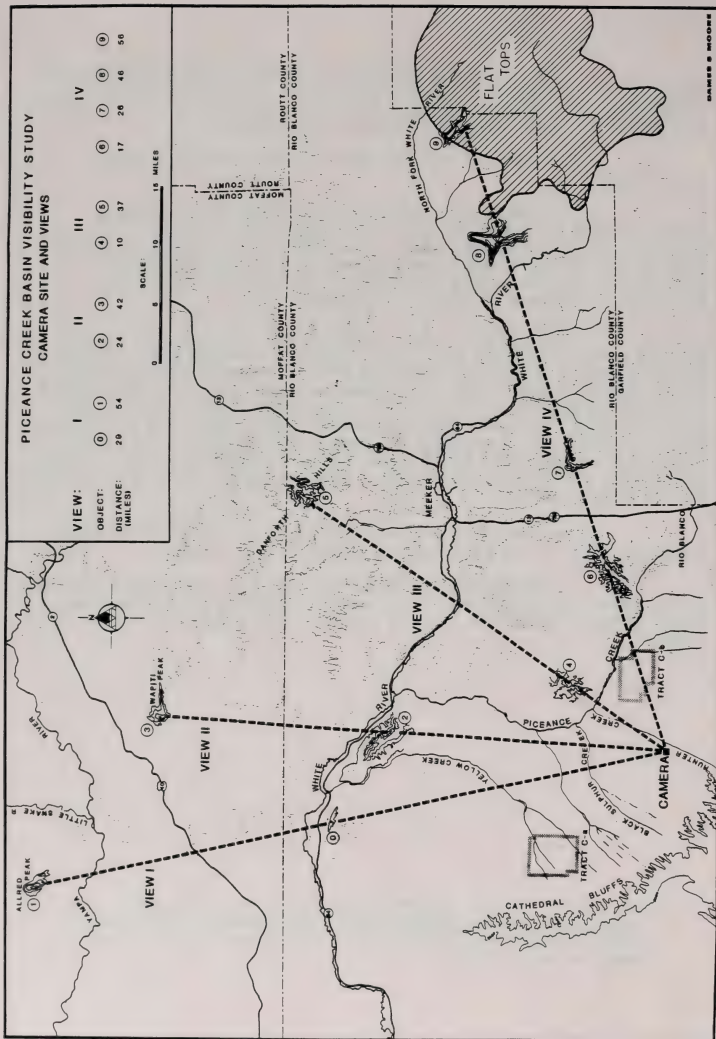


Figure 1.3.3-1

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL * RANGE
----	----	----	----	----	-----
75	9	25	830	1	85.5
				2	83.2
				3	99.3
				4	126.3
			930	1	100.1
				2	83.2
				3	93.9
				4	118.6
			1030	1	100.1
				2	89.3
				3	88.5
				4	126.3
			1130	1	100.1
				2	83.2
				3	88.5
				4	118.6
			1300	1	.0
				2	.0
				3	.0
				4	.0
			1400	1	.0
				2	.0
				3	.0
				4	.0
			1500	1	.0
				2	.0
				3	.0
				4	.0
	26		830	1	86.2
				2	73.1
				3	73.9
				4	104.7
			930	1	93.9
				2	78.5
				3	79.3
				4	120.1
			1030	1	.0
				2	.0
				3	.0
				4	.0
			1130	1	.0
				2	.0
				3	.0
				4	.0
			1300	1	.0
				2	.0
				3	.0
				4	.0
			1400	1	.0
				2	.0
				3	.0

*Statute Miles

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
75	9	26	1400	4	.0
			1500	1	.0
				2	.0
				3	.0
				4	.0
		27	830	1	47.7
				2	43.1
				3	55.4
				4	42.3
			930	1	47.7
				2	47.0
				3	55.4
				4	50.8
			1030	1	52.4
				2	57.8
				3	55.4
				4	54.7
			1130	1	52.4
				2	57.8
				3	60.8
				4	75.5
			1300	1	60.8
				2	61.6
				3	66.2
				4	75.5
			1400	1	65.4
				2	61.6
				3	60.8
				4	75.5
			1500	1	70.1
				2	65.4
				3	66.2
				4	.0
	10	3	830	1	105.5
				2	81.6
				3	101.6
				4	117.8
			930	1	97.0
				2	75.5
				3	89.3
				4	117.8
			1030	1	97.0
				2	81.6
				3	89.3
				4	100.9
			1130	1	97.0
				2	69.3
				3	77.8
				4	100.9
			1300	1	97.0
				2	75.5

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	-----	-----	-----
75	10	3	1300	3	77.8
				4	91.6
				1	97.0
				2	75.5
			1400	3	83.2
				4	91.6
				1	105.5
				2	81.6
			1500	3	83.2
				4	100.9
		9	830	1	120.9
				2	107.0
				3	112.4
				4	142.4
			930	1	120.9
				2	93.9
				3	112.4
				4	142.4
			1030	1	112.4
				2	100.1
				3	106.3
				4	124.7
			1130	1	112.4
				2	93.9
				3	112.4
				4	124.7
			1300	1	112.4
				2	87.0
				3	112.4
				4	116.3
			1400	1	96.3
				2	80.8
				3	82.4
				4	107.8
			1500	1	103.9
				2	87.0
				3	93.9
				4	116.3
		15	830	1	55.4
				2	56.2
				3	54.7
				4	53.1
			930	1	50.8
				2	49.3
				3	60.1
				4	50.8
			1030	1	55.4
				2	60.1
				3	65.4
				4	87.8
			1130	1	55.4

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
75	10	15	1130	2	60.1
				3	65.4
				4	87.8
			1300	1	63.9
				2	60.1
				3	70.8
				4	87.8
			1400	1	77.0
				2	67.8
				3	76.2
				4	80.8
			1500	1	77.0
				2	75.5
				3	76.2
				4	80.8
	21		830	1	95.5
				2	80.8
				3	93.2
				4	124.0
			930	1	95.5
				2	86.2
				3	81.6
				4	115.5
			1030	1	103.9
				2	86.2
				3	87.0
				4	99.3
			1130	1	103.9
				2	77.8
				3	93.2
				4	107.8
			1300	1	103.9
				2	80.8
				3	98.6
				4	115.5
			1400	1	95.5
				2	86.2
				3	104.7
				4	107.8
			1500	1	103.9
				2	80.8
				3	93.2
				4	115.5
	27		830	1	66.2
				2	69.3
				3	79.3
				4	92.4
			930	1	50.0
				2	58.5
				3	63.9
				4	98.6

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
75	10	27	1030	1	62.4
				2	65.4
				3	59.3
				4	80.1
			1130	1	54.7
				2	44.7
				3	63.9
				4	92.4
			1300	1	.0
				2	44.7
				3	.0
				4	67.0
			1400	1	.0
				2	.0
				3	.0
				4	38.5
			1500	1	.0
				2	.0
				3	.0
				4	.0
	11	2	830	1	108.6
				2	83.9
				3	90.1
				4	98.6
			930	1	116.3
				2	90.1
				3	90.1
				4	104.7
			1030	1	116.3
				2	102.4
				3	84.7
				4	111.6
			1130	1	108.6
				2	96.3
				3	90.1
				4	111.6
			1300	1	100.9
				2	90.1
				3	84.7
				4	104.7
			1400	1	116.3
				2	96.3
				3	100.9
				4	118.6
			1500	1	123.2
				2	96.3
				3	100.9
				4	111.6
		8	830	1	.0
				2	.0
				3	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
75	11	8	830	4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	.0
				2	.0
				3	.0
				4	.0
			1130	1	42.3
				2	60.8
				3	.0
				4	.0
			1300	1	93.2
				2	77.8
				3	22.3
				4	.0
			1400	1	93.2
				2	72.4
				3	40.0
				4	51.6
			1500	1	86.2
				2	77.8
				3	88.5
				4	55.4
	14		830	1	138.6
				2	114.7
				3	151.7
				4	154.8
			930	1	131.7
				2	107.8
				3	117.8
				4	111.6
			1030	1	123.2
				2	102.4
				3	124.7
				4	125.5
			1130	1	116.3
				2	102.4
				3	117.8
				4	125.5
			1300	1	123.2
				2	127.0
				3	.0
				4	83.2
			1400	1	138.6
				2	102.4
				3	124.7
				4	125.5
			1500	1	131.7
				2	120.9

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
75	11	14	1500	3	117.8
				4	118.6
		20	830	1	86.2
				2	67.0
				3	73.9
				4	85.5
			930	1	129.4
				2	67.0
				3	78.5
				4	48.5
			1030	1	69.3
				2	79.3
				3	63.9
				4	37.7
			1130	1	74.7
				2	71.6
				3	68.5
				4	44.7
			1300	1	46.2
				2	71.6
				3	78.5
				4	41.6
			1400	1	86.2
				2	72.4
				3	88.5
				4	97.8
			1500	1	107.8
				2	89.3
				3	117.0
				4	124.0
	26	830	1	79.3	
			2	84.7	
			3	112.4	
			4	97.0	
		930	1	86.2	
			2	77.0	
			3	106.3	
			4	97.0	
		1030	1	116.3	
			2	83.9	
			3	95.5	
			4	98.6	
		1130	1	100.9	
			2	83.9	
			3	84.7	
			4	.0	
		1300	1	.0	
			2	.0	
			3	.0	
			4	.0	
		1400	1	.0	

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
75	11	26	1400	2	.0
				3	.0
				4	.0
			1500	1	.0
				2	.0
				3	.0
				4	.0
	12	2	830	1	113.2
				2	88.5
				3	114.0
				4	126.3
			930	1	97.0
				2	88.5
				3	89.3
				4	100.9
			1030	1	105.5
				2	88.5
				3	83.2
				4	117.8
			1130	1	97.0
				2	69.3
				3	77.8
				4	126.3
			1300	1	97.0
				2	69.3
				3	77.8
				4	109.3
			1400	1	105.5
				2	69.3
				3	77.8
				4	100.9
			1500	1	105.5
				2	81.6
				3	77.8
				4	83.9
		8	830	1	90.1
				2	74.7
				3	77.8
				4	83.2
			930	1	89.3
				2	62.4
				3	67.0
				4	69.3
			1030	1	89.3
				2	75.5
				3	67.0
				4	83.2
			1130	1	89.3
				2	75.5
				3	72.4
				4	83.2

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
75	12	8	1300	1	89.3
				2	63.1
				3	83.9
				4	100.9
			1400	1	114.0
				2	95.5
				3	115.5
				4	127.0
			1500	1	105.5
				2	109.3
				3	122.4
				4	118.6
		20	830	1	107.0
				2	89.3
				3	117.8
				4	119.3
			930	1	107.0
				2	83.2
				3	110.9
				4	128.6
			1030	1	107.0
				2	83.2
				3	110.9
				4	110.9
			1130	1	107.0
				2	76.2
				3	103.9
				4	128.6
			1300	1	107.0
				2	83.2
				3	73.1
				4	110.9
			1400	1	107.0
				2	83.2
				3	110.9
				4	83.9
			1500	1	107.0
				2	83.2
				3	90.9
				4	93.2
		27	830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	74.7
				3	33.1
				4	41.6
			1030	1	47.7
				2	.0
				3	30.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
75	12	27	1030	4	43.9
				1	65.4
				2	54.7
				3	29.3
				4	50.8
			1300	1	140.1
				2	62.4
				3	39.3
				4	43.1
			1400	1	114.0
				2	82.4
				3	39.3
				4	43.1
			1500	1	85.5
				2	69.3
				3	39.3
				4	54.7
76	1	2	830	1	.0
				2	61.6
				3	60.8
				4	55.4
			930	1	43.1
				2	43.1
				3	60.8
				4	43.9
			1030	1	47.7
				2	53.9
				3	22.3
				4	47.0
			1130	1	47.7
				2	57.8
				3	22.3
				4	52.4
			1300	1	43.1
				2	43.1
				3	20.8
				4	38.5
			1400	1	52.4
				2	43.1
				3	23.9
				4	33.1
			1500	1	47.7
				2	39.3
				3	14.6
				4	.0
		8	830	1	105.5
				2	98.6
				3	83.9
				4	164.8
			930	1	97.0
				2	121.7

YEAR	MONTH	DAY	HOJR	VIEW	VISUAL RANGE
----	----	----	----	----	----
76	1	8	930	3	67.0
				4	53.1
			1030	1	97.0
				2	116.3
				3	90.1
				4	56.2
			1130	1	89.3
				2	104.7
				3	.0
				4	56.2
			1300	1	89.3
				2	88.5
				3	67.0
				4	47.0
			1400	1	97.0
				2	88.5
				3	60.8
				4	43.9
			1500	1	89.3
				2	66.2
				3	37.0
				4	43.9
		14	830	1	102.4
				2	82.4
				3	103.9
				4	116.3
			930	1	111.6
				2	88.5
				3	111.6
				4	125.5
			1030	1	111.6
				2	.0
				3	97.0
				4	111.6
			1130	1	102.4
				2	.0
				3	90.1
				4	87.0
			1300	1	93.2
				2	100.1
				3	97.0
				4	96.3
			1400	1	111.6
				2	45.4
				3	.0
				4	106.3
			1500	1	111.6
				2	135.5
				3	83.2
				4	106.3
		20	830	1	89.3

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
76	1	20	830	2	69.3
				3	96.3
				4	127.0
			930	1	97.0
				2	69.3
				3	90.1
				4	136.3
			1030	1	89.3
				2	88.5
				3	83.9
				4	100.9
			1130	1	97.0
				2	83.9
				3	83.9
				4	92.4
			1300	1	105.5
				2	83.9
				3	90.1
				4	100.9
			1400	1	89.3
				2	79.3
				3	83.9
				4	92.4
			1500	1	105.5
				2	69.3
				3	83.9
				4	92.4
		26	830	1	53.1
				2	55.4
				3	61.6
				4	51.6
			930	1	61.6
				2	67.0
				3	67.0
				4	55.4
			1030	1	61.6
				2	59.3
				3	61.6
				4	47.0
			1130	1	61.6
				2	55.4
				3	61.6
				4	43.1
			1300	1	67.0
				2	71.6
				3	61.6
				4	43.1
			1400	1	57.0
				2	63.1
				3	33.9
				4	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
76	1	26	1500	1	43.9
				2	63.1
				3	49.3
				4	.0
	2	1	830	1	103.2
				2	73.9
				3	116.3
				4	131.7
			930	1	95.5
				2	68.5
				3	103.9
				4	131.7
			1030	1	103.2
				2	68.5
				3	97.8
				4	123.2
			1130	1	95.5
				2	61.6
				3	97.8
				4	123.2
			1300	1	95.5
				2	55.4
				3	92.4
				4	107.0
			1400	1	87.8
				2	68.5
				3	97.8
				4	98.6
			1500	1	87.8
				2	80.1
				3	87.0
				4	98.6
		7	830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	47.7
				2	39.3
				3	22.3
				4	43.1
			1030	1	56.2
				2	46.2
				3	28.5
				4	46.2
			1130	1	51.6
				2	43.1
				3	.0
				4	42.3
			1300	1	51.6
				2	46.2
				3	60.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
76	2	7	1300	4	42.3
			1400	1	51.6
				2	57.0
				3	.0
				4	40.8
			1500	1	56.2
				2	53.9
				3	23.9
				4	37.7
		13	830	1	103.9
				2	80.8
				3	76.2
				4	67.8
			930	1	103.9
				2	74.7
				3	65.4
				4	74.7
			1030	1	95.5
				2	74.7
				3	60.1
				4	74.7
			1130	1	87.8
				2	62.4
				3	65.4
				4	81.6
			1300	1	95.5
				2	68.5
				3	76.2
				4	27.7
			1400	1	95.5
				2	62.4
				3	76.2
				4	99.3
			1500	1	95.5
				2	68.5
				3	70.8
				4	90.9
		19	830	1	88.5
				2	68.5
				3	77.0
				4	107.8
			930	1	103.9
				2	80.8
				3	88.5
				4	124.7
			1030	1	96.3
				2	80.8
				3	77.0
				4	116.3
			1130	1	96.3
				2	80.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
76	2	19	1130	3	.0
				4	100.1
			1300	1	112.4
				2	74.7
				3	.0
				4	91.6
			1400	1	96.3
				2	80.8
				3	.0
				4	83.2
			1500	1	96.3
				2	74.7
				3	.0
				4	116.3
		25	830	1	88.5
				2	68.5
				3	58.5
				4	100.1
			930	1	88.5
				2	68.5
				3	77.0
				4	100.1
			1030	1	80.1
				2	62.4
				3	71.6
				4	81.6
			1130	1	80.1
				2	62.4
				3	71.6
				4	68.5
			1300	1	80.1
				2	100.1
				3	.0
				4	100.1
			1400	1	88.5
				2	114.0
				3	77.0
				4	75.5
			1500	1	88.5
				2	68.5
				3	77.0
				4	54.7
	3	2	830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
76	3	2	1030	2	.0
				3	.0
				4	.0
			1130	1	.0
				2	43.1
				3	26.9
				4	33.1
			1300	1	.0
				2	53.9
				3	33.9
				4	27.7
			1400	1	.0
				2	.0
				3	.0
				4	.0
			1500	1	.0
				2	.0
				3	.0
				4	.0
	8		830	1	61.6
				2	66.2
				3	67.0
				4	76.2
			930	1	52.4
				2	54.7
				3	60.8
				4	83.2
			1030	1	52.4
				2	62.4
				3	55.4
				4	76.2
			1130	1	65.4
				2	74.7
				3	60.8
				4	69.3
			1300	1	57.0
				2	54.7
				3	60.8
				4	61.6
			1400	1	61.6
				2	50.8
				3	60.8
				4	69.3
			1500	1	57.0
				2	70.8
				3	60.8
				4	83.9
	14		830	1	84.7
				2	70.1
				3	89.3
				4	82.4

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
76	3	14	930	1	65.4
				2	93.2
				3	77.8
				4	68.5
			1030	1	70.1
				2	70.1
				3	83.2
				4	68.5
			1130	1	74.7
				2	65.4
				3	89.3
				4	68.5
			1300	1	65.4
				2	70.1
				3	89.3
				4	.0
			1400	1	60.8
				2	65.4
				3	34.6
				4	.0
			1500	1	121.7
				2	145.5
				3	.0
				4	.0
	20		830	1	98.6
				2	96.3
				3	73.1
				4	97.8
			930	1	98.6
				2	83.2
				3	84.7
				4	92.4
			1030	1	107.0
				2	70.1
				3	90.9
				4	97.8
			1130	1	98.6
				2	63.1
				3	84.7
				4	98.6
			1300	1	90.1
				2	71.6
				3	73.1
				4	83.9
			1400	1	90.1
				2	67.0
				3	67.0
				4	76.2
			1500	1	98.6
				2	83.2
				3	84.7

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
76	3	20	1500	4	55.4
		26	830	1	90.1
				2	80.8
				3	90.9
				4	87.8
			930	1	67.0
				2	80.8
				3	61.6
				4	87.8
			1030	1	81.6
				2	90.9
				3	90.9
				4	76.2
			1130	1	90.1
				2	76.2
				3	73.1
				4	83.9
			1300	1	90.1
				2	80.8
				3	79.3
				4	63.9
			1400	1	98.6
				2	76.2
				3	67.0
				4	76.2
			1500	1	98.6
				2	95.5
				3	79.3
				4	55.4
	4	1	830	1	115.5
				2	83.2
				3	103.9
				4	128.6
			930	1	90.1
				2	83.2
				3	97.0
				4	128.6
			1030	1	115.5
				2	103.2
				3	90.9
				4	101.6
			1130	1	115.5
				2	89.3
				3	110.9
				4	110.9
			1300	1	107.0
				2	83.2
				3	90.9
				4	101.6
			1400	1	107.0
				2	83.2

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
76	4	1	1400	3	84.7
				4	101.6
			1500	1	107.0
				2	76.2
				3	73.1
				4	83.9
		7	830	1	.0
				2	39.3
				3	.0
				4	.0
			930	1	.0
				2	55.4
				3	.0
				4	.0
			1030	1	52.4
				2	39.3
				3	20.8
				4	.0
			1130	1	60.8
				2	57.8
				3	17.7
				4	.0
			1300	1	52.4
				2	53.9
				3	23.9
				4	.0
			1400	1	74.7
				2	61.6
				3	37.0
				4	62.4
			1500	1	65.4
				2	53.9
				3	64.7
				4	50.8
		13	830	1	57.0
				2	43.1
				3	60.8
				4	47.0
			930	1	61.6
				2	58.5
				3	72.4
				4	.0
			1030	1	43.1
				2	50.8
				3	115.5
				4	47.0
			1130	1	.0
				2	.0
				3	60.8
				4	.0
			1300	1	52.4

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
76	4	13	1300	2	50.8
				3	122.4
				4	47.0
			1400	1	47.7
				2	36.2
				3	60.8
				4	41.6
			1500	1	52.4
				2	50.8
				3	129.4
				4	50.8
		19	830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	48.5
				2	47.7
				3	34.6
				4	.0
			1030	1	43.9
				2	.0
				3	67.8
				4	43.9
			1130	1	.0
				2	.0
				3	15.4
				4	28.5
			1300	1	58.5
				2	68.5
				3	40.8
				4	52.4
			1400	1	90.9
				2	77.0
				3	48.5
				4	52.4
			1500	1	108.6
				2	70.8
				3	51.6
				4	60.8
		25	830	1	89.3
				2	82.4
				3	96.3
				4	127.0
			930	1	105.5
				2	88.5
				3	115.5
				4	127.0
			1030	1	97.0
				2	82.4
				3	96.3
				4	145.5

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
76	4	25	1130	1	75.5
				2	75.5
				3	96.3
				4	109.3
			1300	1	52.4
				2	50.8
				3	60.8
				4	76.2
			1400	1	57.0
				2	58.5
				3	60.8
				4	69.3
			1500	1	57.0
				2	50.8
				3	60.8
				4	69.3
	5	1	830	1	52.4
				2	61.6
				3	66.2
				4	91.6
			930	1	52.4
				2	69.3
				3	77.8
				4	117.8
			1030	1	60.8
				2	57.8
				3	72.4
				4	91.6
			1130	1	70.1
				2	78.5
				3	72.4
				4	91.6
			1300	1	88.5
				2	69.3
				3	72.4
				4	75.5
			1400	1	88.5
				2	69.3
				3	72.4
				4	96.3
			1500	1	97.0
				2	75.5
				3	77.8
				4	90.1
	7		830	1	74.7
				2	75.5
				3	66.2
				4	63.1
			930	1	56.2
				2	69.3
				3	60.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
76	5	7	930	4	63.1
			1030	1	43.1
				2	.0
				3	72.4
				4	58.5
			1130	1	.0
				2	43.1
				3	40.8
				4	54.7
			1300	1	.0
				2	53.9
				3	40.8
				4	54.7
			1400	1	70.1
				2	57.8
				3	43.1
				4	42.3
			1500	1	74.7
				2	61.6
				3	40.8
				4	30.8
	13		830	1	89.3
				2	69.3
				3	72.4
				4	100.9
			930	1	65.4
				2	69.3
				3	83.9
				4	100.9
			1030	1	89.3
				2	63.1
				3	72.4
				4	92.4
			1130	1	65.4
				2	63.1
				3	67.0
				4	118.6
			1300	1	75.5
				2	69.3
				3	72.4
				4	109.3
			1400	1	89.3
				2	75.5
				3	72.4
				4	92.4
			1500	1	89.3
				2	69.3
				3	78.5
				4	118.6
	19		830	1	65.4
				2	54.7

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
76	5	19	830	3	67.0
				4	76.2
			930	1	52.4
				2	62.4
				3	67.0
				4	76.2
			1030	1	61.6
				2	66.2
				3	60.8
				4	59.3
			1130	1	65.4
				2	58.5
				3	33.1
				4	76.2
			1300	1	65.4
				2	66.2
				3	72.4
				4	.0
			1400	1	.0
				2	.0
				3	26.2
				4	76.2
			1500	1	.0
				2	.0
				3	49.3
				4	76.2
	25		830	1	77.0
				2	70.1
				3	73.9
				4	93.9
			930	1	65.4
				2	73.1
				3	67.8
				4	77.0
			1030	1	72.4
				2	70.1
				3	67.8
				4	77.0
			1130	1	53.1
				2	68.5
				3	67.8
				4	64.7
			1300	1	53.1
				2	36.2
				3	38.5
				4	43.9
			1400	1	67.8
				2	77.0
				3	34.6
				4	60.8
			1500	1	87.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
76	5	25	1500	2	70.1
				3	86.2
				4	120.9
		31	830	1	90.1
				2	83.9
				3	92.4
				4	111.6
			930	1	99.3
				2	77.0
				3	86.2
				4	93.9
			1030	1	90.1
				2	77.0
				3	92.4
				4	102.4
			1130	1	90.1
				2	77.0
				3	86.2
				4	102.4
			1300	1	77.0
				2	77.0
				3	80.1
				4	69.3
			1400	1	90.1
				2	77.0
				3	86.2
				4	111.6
			1500	1	82.4
				2	83.9
				3	92.4
				4	93.9
	6	6	830	1	57.0
				2	58.5
				3	67.0
				4	76.2
			930	1	47.7
				2	47.0
				3	55.4
				4	54.7
			1030	1	57.0
				2	54.7
				3	60.8
				4	59.3
			1130	1	52.4
				2	54.7
				3	67.0
				4	63.1
			1300	1	52.4
				2	54.7
				3	60.8
				4	76.2

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
76	6	6	1400	1	57.0
				2	54.7
				3	60.8
				4	63.1
			1500	1	52.4
				2	66.2
				3	67.0
				4	63.1
		12	830	1	97.0
				2	75.5
				3	78.5
				4	83.2
			930	1	89.3
				2	75.5
				3	90.1
				4	90.1
			1030	1	89.3
				2	75.5
				3	72.4
				4	69.3
			1130	1	97.0
				2	88.5
				3	83.9
				4	90.1
			1300	1	89.3
				2	82.4
				3	96.3
				4	100.9
			1400	1	114.0
				2	95.5
				3	83.9
				4	92.4
			1500	1	105.5
				2	95.5
				3	90.1
				4	100.9
		18	830	1	67.8
				2	68.5
				3	73.9
				4	77.0
			930	1	77.0
				2	82.4
				3	60.1
				4	77.0
			1030	1	57.8
				2	.0
				3	61.6
				4	51.6
			1130	1	82.4
				2	70.1
				3	73.9

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
76	6	18	1130	4	77.0
			1300	1	43.9
				2	83.9
				3	48.5
				4	102.4
			1400	1	77.0
				2	90.9
				3	57.0
				4	91.6
			1500	1	116.3
				2	21.6
				3	142.4
				4	56.2
		24	830	1	72.4
				2	77.0
				3	86.2
				4	102.4
			930	1	67.8
				2	70.1
				3	86.2
				4	120.9
			1030	1	90.1
				2	77.0
				3	80.1
				4	111.6
			1130	1	90.1
				2	70.1
				3	80.1
				4	102.4
			1300	1	72.4
				2	77.0
				3	80.1
				4	93.9
			1400	1	90.1
				2	77.0
				3	73.9
				4	93.9
			1500	1	90.1
				2	77.0
				3	67.8
				4	93.9
		30	830	1	58.5
				2	52.4
				3	161.7
				4	77.0
			930	1	63.1
				2	60.1
				3	62.4
				4	77.0
			1030	1	63.1
				2	68.5

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
76	6	30	1030	3	62.4
				4	77.0
			1130	1	72.4
				2	60.1
				3	62.4
				4	65.4
			1300	1	67.6
				2	70.8
				3	62.4
				4	60.8
			1400	1	63.1
				2	64.7
				3	67.8
				4	65.4
			1500	1	77.8
				2	70.8
				3	67.8
				4	60.8
	7	6	830	1	53.9
				2	77.8
				3	87.8
				4	103.9
			930	1	68.5
				2	43.9
				3	74.7
				4	80.8
			1030	1	73.9
				2	70.8
				3	74.7
				4	85.5
			1130	1	79.3
				2	70.8
				3	68.5
				4	75.5
			1300	1	63.9
				2	70.8
				3	68.5
				4	80.8
			1400	1	84.7
				2	70.8
				3	74.7
				4	77.8
			1500	1	90.1
				2	84.7
				3	81.6
				4	85.5
		12	830	1	67.0
				2	55.4
				3	67.0
				4	83.9
			930	1	67.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
76	7	12	930	2	55.4
				3	55.4
				4	76.2
			1030	1	67.0
				2	55.4
				3	61.6
				4	76.2
			1130	1	67.0
				2	59.3
				3	55.4
				4	63.9
			1300	1	61.6
				2	.0
				3	73.1
				4	68.5
			1400	1	.0
				2	83.2
				3	61.6
				4	60.1
			1500	1	.0
				2	.0
				3	67.0
				4	63.9
		18	830	1	86.2
				2	76.2
				3	90.9
				4	.0
			930	1	53.1
				2	47.7
				3	67.0
				4	.0
			1030	1	57.0
				2	55.4
				3	61.6
				4	.0
			1130	1	71.6
				2	70.1
				3	67.0
				4	.0
			1300	1	53.1
				2	43.9
				3	31.6
				4	.0
			1400	1	67.0
				2	55.4
				3	37.7
				4	.0
			1500	1	57.0
				2	55.4
				3	31.6
				4	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
76	7	24	830	1	92.4
				2	86.2
				3	95.5
				4	124.0
			930	1	100.9
				2	86.2
				3	88.5
				4	124.0
			1030	1	92.4
				2	78.5
				3	88.5
				4	114.7
			1130	1	82.4
				2	78.5
				3	82.4
				4	104.7
			1300	1	110.1
				2	86.2
				3	102.4
				4	85.5
			1400	1	110.1
				2	93.2
				3	95.5
				4	95.5
			1500	1	120.1
				2	93.2
				3	95.5
				4	85.5
		30	830	1	75.5
				2	63.1
				3	72.4
				4	100.9
			930	1	65.4
				2	63.1
				3	67.0
				4	92.4
			1030	1	61.6
				2	69.3
				3	67.0
				4	76.2
			1130	1	89.3
				2	69.3
				3	72.4
				4	76.2
			1300	1	89.3
				2	69.3
				3	72.4
				4	76.2
			1400	1	75.5
				2	69.3
				3	67.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
76	7	30	1400	4	69.3
			1500	1	89.3
				2	69.3
				3	49.3
				4	.0
	8	5	830	1	98.6
				2	83.2
				3	90.9
				4	128.6
			930	1	98.6
				2	76.2
				3	90.9
				4	119.3
			1030	1	90.1
				2	83.2
				3	97.0
				4	128.6
			1130	1	98.6
				2	83.2
				3	90.9
				4	119.3
			1300	1	107.0
				2	83.2
				3	90.9
				4	119.3
			1400	1	107.0
				2	89.3
				3	84.7
				4	110.9
			1500	1	115.5
				2	89.3
				3	84.7
				4	119.3
	11	830	1	1	98.6
				2	96.3
				3	103.9
				4	128.6
			930	1	107.0
				2	89.3
				3	97.0
				4	119.3
			1030	1	90.1
				2	83.2
				3	97.0
				4	110.9
			1130	1	107.0
				2	96.3
				3	84.7
				4	83.9
			1300	1	98.6
				2	89.3

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
76	8	11	1300	3	61.6
				4	93.2
			1400	1	141.7
				2	76.2
				3	73.1
				4	.0
			1500	1	124.0
				2	133.2
				3	90.9
				4	.0
		17	830	1	131.7
				2	109.3
				3	122.4
				4	92.4
			930	1	114.0
				2	109.3
				3	115.5
				4	100.9
			1030	1	114.0
				2	109.3
				3	102.4
				4	100.9
			1130	1	122.4
				2	102.4
				3	90.1
				4	100.9
			1300	1	105.5
				2	82.4
				3	78.5
				4	69.3
			1400	1	89.3
				2	69.3
				3	72.4
				4	92.4
			1500	1	105.5
				2	69.3
				3	96.3
				4	100.9
		23	830	1	64.7
				2	68.5
				3	66.2
				4	68.5
			930	1	83.2
				2	73.1
				3	36.2
				4	68.5
			1030	1	69.3
				2	68.5
				3	60.8
				4	75.5
			1130	1	69.3

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
76	8	23	1130	2	74.7
				3	66.2
				4	81.6
			1300	1	88.5
				2	74.7
				3	77.0
				4	100.1
			1400	1	88.5
				2	68.5
				3	60.8
				4	91.6
			1500	1	96.3
				2	74.7
				3	71.6
				4	91.6
	29		830	1	112.4
				2	100.1
				3	119.3
				4	142.4
			930	1	112.4
				2	93.9
				3	106.3
				4	124.7
			1030	1	103.9
				2	93.9
				3	106.3
				4	116.3
			1130	1	103.9
				2	93.9
				3	93.9
				4	134.0
			1300	1	112.4
				2	93.9
				3	119.3
				4	142.4
			1400	1	120.9
				2	107.0
				3	100.1
				4	151.7
			1500	1	120.9
				2	93.9
				3	112.4
				4	124.7
	9	4	830	1	87.8
				2	74.7
				3	87.0
				4	115.5
			930	1	87.8
				2	74.7
				3	81.6
				4	115.5

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
76	9	4	1030	1	87.8
				2	80.8
				3	87.0
				4	107.8
			1130	1	95.5
				2	80.8
				3	93.2
				4	107.8
			1300	1	95.5
				2	86.2
				3	87.0
				4	90.9
			1400	1	95.5
				2	86.2
				3	87.0
				4	107.8
			1500	1	110.9
				2	86.2
				3	81.6
				4	107.8
		10	830	1	99.3
				2	83.9
				3	106.3
				4	84.7
			930	1	99.3
				2	83.9
				3	93.2
				4	70.1
			1030	1	99.3
				2	83.9
				3	73.9
				4	70.1
			1130	1	99.3
				2	83.9
				3	80.1
				4	77.0
			1300	1	90.9
				2	77.0
				3	86.2
				4	77.0
			1400	1	99.3
				2	83.9
				3	99.3
				4	77.0
			1500	1	117.0
				2	105.5
				3	86.2
				4	84.7
		16	830	1	72.4
				2	70.1
				3	61.6

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
76	9	16	830	4	84.7
			930	1	67.8
				2	63.9
				3	73.9
				4	84.7
			1030	1	57.8
				2	60.1
				3	67.8
				4	84.7
			1130	1	67.8
				2	63.9
				3	61.6
				4	69.3
			1300	1	82.4
				2	70.1
				3	61.6
				4	60.8
			1400	1	82.4
				2	70.1
				3	61.6
				4	64.7
			1500	1	82.4
				2	70.1
				3	56.2
				4	64.7
	22		830	1	81.6
				2	59.3
				3	55.4
				4	30.8
			930	1	43.9
				2	51.6
				3	23.1
				4	39.3
			1030	1	53.1
				2	51.6
				3	44.7
				4	50.8
			1130	1	48.5
				2	63.1
				3	49.3
				4	92.4
			1300	1	71.6
				2	71.6
				3	55.4
				4	39.3
			1400	1	48.5
				2	55.4
				3	55.4
				4	63.9
			1500	1	57.0
				2	67.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
76	9	22	1500	3	67.0
				4	47.0
78	4	6	830	1	127.0
				2	111.6
				3	.0
				4	.0
			930	1	103.2
				2	92.4
				3	73.9
				4	129.4
			1030	1	87.8
				2	92.4
				3	87.0
				4	121.7
			1130	1	95.5
				2	80.1
				3	70.8
				4	94.7
			1300	1	95.5
				2	80.1
				3	97.8
				4	100.9
			1400	1	110.9
				2	98.6
				3	87.0
				4	107.8
			1500	1	118.6
				2	104.7
				3	87.0
				4	137.1
		12	830	1	90.1
				2	83.2
				3	84.7
				4	105.5
			930	1	90.1
				2	89.3
				3	84.7
				4	113.2
			1030	1	90.1
				2	83.2
				3	84.7
				4	113.2
			1130	1	90.1
				2	83.2
				3	79.3
				4	128.6
			1300	1	98.6
				2	89.3
				3	79.3
				4	120.9
			1400	1	107.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	-----	----	-----
78	4	12	1400	2	89.3
				3	90.9
				4	98.6
			1500	1	107.0
				2	89.3
				3	84.7
				4	83.9
		18	830	1	88.5
				2	74.7
				3	71.6
				4	110.1
			930	1	88.5
				2	74.7
				3	71.6
				4	88.5
			1030	1	88.5
				2	80.8
				3	71.6
				4	88.5
			1130	1	96.3
				2	74.7
				3	77.0
				4	110.1
			1300	1	88.5
				2	74.7
				3	77.0
				4	88.5
			1400	1	88.5
				2	74.7
				3	71.6
				4	81.6
			1500	1	88.5
				2	74.7
				3	77.0
				4	81.6
		24	830	1	90.1
				2	70.1
				3	73.1
				4	90.9
			930	1	90.1
				2	70.1
				3	79.3
				4	105.5
			1030	1	90.1
				2	83.2
				3	79.3
				4	90.9
			1130	1	90.1
				2	83.2
				3	84.7
				4	98.6

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	-----	-----	-----
78	4	24	1300	1	90.1
				2	76.2
				3	73.1
				4	82.4
			1400	1	98.6
				2	76.2
				3	84.7
				4	90.9
			1500	1	90.1
				2	76.2
				3	73.1
				4	76.2
		30	830	1	53.1
				2	36.2
				3	31.6
				4	55.4
			930	1	61.6
				2	.0
				3	33.9
				4	51.6
			1030	1	71.6
				2	43.9
				3	37.7
				4	36.2
			1130	1	76.2
				2	67.0
				3	60.8
				4	51.6
			1300	1	76.2
				2	63.1
				3	21.6
				4	57.0
			1400	1	150.9
				2	76.2
				3	55.4
				4	36.2
			1500	1	57.0
				2	83.2
				3	42.3
				4	51.6
	5	6	830	1	65.4
				2	58.5
				3	72.4
				4	47.0
			930	1	65.4
				2	54.7
				3	27.7
				4	47.0
			1030	1	.0
				2	54.7
				3	46.2

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
78	5	6	1030	4	.0
			1130	1	57.0
				2	62.4
				3	46.2
				4	47.0
			1300	1	65.4
				2	39.3
				3	17.7
				4	50.8
			1400	1	.0
				2	.0
				3	43.1
				4	71.6
			1500	1	.0
				2	.0
				3	37.0
				4	76.2
	12		830	1	105.5
				2	88.5
				3	115.5
				4	90.1
			930	1	97.0
				2	95.5
				3	102.4
				4	97.0
			1030	1	97.0
				2	88.5
				3	96.3
				4	104.7
			1130	1	97.0
				2	95.5
				3	90.1
				4	111.6
			1300	1	97.0
				2	82.4
				3	90.1
				4	76.2
			1400	1	97.0
				2	82.4
				3	83.9
				4	83.2
			1500	1	97.0
				2	82.4
				3	83.9
				4	90.1
	18		830	1	80.8
				2	69.3
				3	78.5
				4	76.2
			930	1	80.8
				2	88.5

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
78	5	18	930	3	90.1
				4	86.2
			1030	1	89.3
				2	88.5
				3	90.1
				4	76.2
			1130	1	97.0
				2	95.5
				3	96.3
				4	86.2
			1300	1	105.5
				2	82.4
				3	78.5
				4	80.8
			1400	1	97.0
				2	102.4
				3	96.3
				4	104.7
			1500	1	105.5
				2	82.4
				3	108.6
				4	119.3
	24		830	1	67.8
				2	68.5
				3	70.8
				4	74.7
			930	1	67.8
				2	56.2
				3	65.4
				4	80.8
			1030	1	47.0
				2	68.5
				3	65.4
				4	94.7
			1130	1	59.3
				2	60.1
				3	65.4
				4	87.8
			1300	1	55.4
				2	52.4
				3	70.8
				4	74.7
			1400	1	55.4
				2	73.9
				3	76.2
				4	80.8
			1500	1	59.3
				2	49.3
				3	60.1
				4	87.8
	30		830	1	72.4

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	----	----	-----
78	5	30	830	2	73.9
				3	76.2
				4	80.8
			930	1	59.3
				2	68.5
				3	76.2
				4	87.8
			1030	1	50.8
				2	73.9
				3	70.8
				4	80.8
			1130	1	55.4
				2	61.6
				3	65.4
				4	74.7
			1300	1	50.8
				2	68.5
				3	60.1
				4	80.8
			1400	1	59.3
				2	68.5
				3	65.4
				4	87.8
			1500	1	67.8
				2	61.6
				3	65.4
				4	74.7
10	5	830	1	93.9	
			2	79.3	
			3	80.1	
			4	97.8	
			930	1	93.9
				2	73.1
				3	80.1
				4	105.5
			1030	1	93.9
				2	73.1
				3	80.1
				4	90.1
			1130	1	79.3
				2	73.1
				3	74.7
				4	90.1
			1300	1	87.0
				2	79.3
				3	80.1
				4	97.8
			1400	1	97.0
				2	73.1
				3	80.1
				4	97.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
78	10	5	1500	1	93.9
				2	79.3
				3	85.5
				4	97.8
		11	830	1	120.9
				2	62.4
				3	71.6
				4	91.6
			930	1	112.4
				2	68.5
				3	66.2
				4	83.2
			1030	1	96.3
				2	68.5
				3	66.2
				4	83.2
			1130	1	120.9
				2	68.5
				3	71.6
				4	91.6
			1300	1	88.5
				2	74.7
				3	88.5
				4	100.1
			1400	1	96.3
				2	80.8
				3	88.5
				4	100.1
			1500	1	96.3
				2	80.8
				3	88.5
				4	116.3
		17	830	1	88.5
				2	81.6
				3	83.2
				4	.0
			930	1	88.5
				2	75.5
				3	66.2
				4	91.6
			1030	1	88.5
				2	75.5
				3	66.2
				4	91.6
			1130	1	60.8
				2	69.3
				3	60.8
				4	91.6
			1300	1	70.1
				2	75.5
				3	66.2

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
78	10	17	1300	4	109.3
			1400	1	101.6
				2	75.5
				3	66.2
				4	91.6
			1500	1	.0
				2	79.3
				3	77.8
				4	100.9
		23	830	1	99.3
				2	90.9
				3	.0
				4	.0
			930	1	108.6
				2	83.9
				3	.0
				4	.0
			1030	1	90.9
				2	90.9
				3	80.1
				4	.0
			1130	1	99.3
				2	90.9
				3	86.2
				4	107.0
			1300	1	108.6
				2	77.0
				3	80.1
				4	92.4
			1400	1	117.0
				2	90.9
				3	93.2
				4	107.0
			1500	1	126.3
				2	97.8
				3	86.2
				4	92.4
		29	830	1	98.6
				2	89.3
				3	90.9
				4	128.6
			930	1	98.6
				2	83.2
				3	79.3
				4	119.3
			1030	1	90.1
				2	70.1
				3	73.1
				4	101.6
			1130	1	81.6
				2	63.1

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
78	10	29	1130	3	67.0
				4	60.1
			1300	1	90.1
				2	70.1
				3	61.6
				4	55.4
			1400	1	90.1
				2	63.1
				3	55.4
				4	61.6
			1500	1	81.6
				2	70.1
				3	61.6
				4	76.2
	11	4	830	1	72.4
				2	77.0
				3	86.2
				4	107.0
			930	1	77.8
				2	83.9
				3	93.2
				4	115.5
			1030	1	90.9
				2	70.8
				3	73.9
				4	115.5
			1130	1	90.9
				2	77.0
				3	93.2
				4	107.0
			1300	1	90.9
				2	63.9
				3	80.1
				4	100.1
			1400	1	90.9
				2	77.0
				3	73.9
				4	84.7
			1500	1	99.3
				2	97.8
				3	99.3
				4	115.5
		10	830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	.0



YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
78	11	10	1030	2	.0
				3	34.6
				4	43.9
			1130	1	.0
				2	.0
				3	38.5
				4	51.6
			1300	1	.0
				2	.0
				3	34.6
				4	47.7
			1400	1	.0
				2	.0
				3	28.5
				4	47.7
			1500	1	.0
				2	.0
				3	24.6
				4	51.6
		16	830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	.0
				2	.0
				3	.0
				4	.0
			1130	1	.0
				2	.0
				3	.0
				4	.0
			1300	1	.0
				2	.0
				3	.0
				4	.0
			1400	1	.0
				2	.0
				3	.0
				4	30.0
			1500	1	.0
				2	.0
				3	21.6
				4	30.0
		22	830	1	.0
				2	.0
				3	.0
				4	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	----	----	-----
78	11	22	930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	.0
				2	55.4
				3	49.3
				4	60.1
			1130	1	.0
				2	.0
				3	52.4
				4	77.8
			1300	1	.0
				2	.0
				3	35.4
				4	.0
			1400	1	81.6
				2	.0
				3	27.7
				4	73.1
			1500	1	215.6
				2	83.2
				3	.0
				4	63.9
79	4	18	830	1	77.0
				2	67.0
				3	88.5
				4	105.5
			930	1	72.4
				2	61.6
				3	83.2
				4	101.6
			1030	1	68.5
				2	63.1
				3	87.0
				4	61.6
			1130	1	68.5
				2	58.5
				3	73.9
				4	67.8
			1300	1	81.6
				2	80.8
				3	63.1
				4	29.3
			1400	1	73.9
				2	60.8
				3	74.7
				4	55.4
			1500	1	77.0
				2	66.2
				3	70.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
79	4	18	1500	4	95.5
		24	830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	88.5
				2	90.1
				3	109.3
				4	137.8
			1130	1	89.3
				2	77.8
				3	57.8
				4	151.7
			1300	1	117.8
				2	87.0
				3	80.8
				4	119.3
			1400	1	102.4
				2	74.7
				3	98.6
				4	134.8
			1500	1	122.4
				2	73.1
				3	87.0
				4	104.7
	30		730	1	71.6
				2	70.1
				3	89.3
				4	100.1
			830	1	64.7
				2	65.4
				3	80.1
				4	96.3
			930	1	70.8
				2	60.1
				3	80.1
				4	84.7
			1030	1	72.4
				2	60.8
				3	80.8
				4	85.5
			1200	1	67.8
				2	69.3
				3	79.3
				4	92.4
			1300	1	75.5
				2	67.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
79	4	30	1300	3	72.4
				4	89.3
			1400	1	83.2
				2	76.2
				3	81.6
				4	83.9
	5	6	730	1	43.9
				2	54.7
				3	51.6
				4	84.7
			830	1	40.0
				2	47.7
				3	52.4
				4	84.7
			930	1	38.5
				2	42.3
				3	48.5
					63.0
				4	77.8
			1030	1	74.7
				2	46.2
				3	43.1
				4	80.1
			1200	1	74.7
				2	52.4
				3	47.7
				4	85.5
			1300	1	61.6
				2	63.1
				3	48.5
				4	98.6
			1400	1	63.9
				2	52.4
				3	33.1
				4	104.7
		12	730	1	30.0
				2	77.0
				3	84.7
				4	98.6
			830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	.0
				2	.0
				3	.0
				4	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
79	5	12	1200	1	.0
				2	.0
				3	.0
				4	.0
			1300	1	.0
				2	.0
				3	.0
				4	.0
			1400	1	.0
				2	.0
				3	.0
				4	.0
		18	730	1	54.7
				2	60.1
				3	57.8
				4	127.0
			830	1	63.9
				2	59.3
				3	62.4
				4	110.9
			930	1	59.3
				2	52.4
				3	58.5
				4	115.5
			1030	1	68.5
				2	49.3
				3	57.0
				4	127.8
			1200	1	59.3
				2	52.4
				3	53.1
				4	107.0
			1300	1	73.1
				2	53.9
				3	56.2
				4	107.0
			1400	1	64.7
				2	52.4
				3	53.9
				4	86.2
		24	730	1	92.4
				2	82.4
				3	177.1
				4	.0
			830	1	89.3
				2	86.2
				3	113.2
				4	204.8
			930	1	81.6
				2	83.2
				3	83.9

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
79	5	24	930	4	126.3
				1	81.6
				2	86.2
				3	98.6
			1200	4	174.0
				1	77.8
				2	73.1
				3	197.9
			1300	4	124.7
				1	144.0
				2	45.4
				3	16.2
			1400	4	191.7
				1	.0
				2	.0
				3	.0
			30 730	4	.0
				1	110.1
				2	109.3
				3	104.7
			830	4	101.6
				1	110.1
				2	96.3
				3	98.6
			930	4	161.7
				1	103.9
				2	96.3
				3	91.6
			1030	4	171.7
				1	100.1
				2	99.3
				3	96.3
			1200	4	155.5
				1	122.4
				2	103.9
				3	91.6
			1300	4	150.1
				1	107.0
				2	88.5
				3	85.5
			1400	4	153.2
				1	103.2
				2	87.8
				3	82.4
	6	5	730	4	140.1
				1	69.3
				2	70.8
				3	67.0
			830	4	120.9
				1	69.3
				2	62.4

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
79	6	5	830	3	66.2
				4	116.3
			930	1	67.0
				2	58.5
				3	67.8
				4	109.3
			1030	1	74.7
				2	57.8
				3	63.1
				4	114.0
			1200	1	78.5
				2	64.7
				3	72.4
				4	112.4
			1300	1	70.8
				2	64.7
				3	76.2
				4	107.0
			1400	1	77.0
				2	69.3
				3	67.0
				4	110.9
		11	730	1	93.2
				2	83.2
				3	112.4
				4	130.1
			830	1	95.5
				2	83.2
				3	94.7
				4	138.6
			930	1	101.6
				2	80.1
				3	100.1
				4	162.5
			1030	1	97.8
				2	82.4
				3	93.2
				4	153.2
			1200	1	105.5
				2	83.9
				3	93.2
				4	180.2
			1300	1	93.2
				2	82.4
				3	88.5
				4	100.9
			1400	1	48.5
				2	81.6
				3	93.2
				4	120.1
	10	4	830	1	103.9

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
79	10	4	830	2	93.9
				3	124.7
				4	142.4
			930	1	97.8
				2	88.5
				3	100.1
				4	143.2
			1030	1	.0
				2	.0
				3	.0
				4	.0
			1130	1	.0
				2	.0
				3	.0
				4	.0
			1300	1	77.0
				2	73.9
				3	98.6
				4	130.1
			1400	1	85.5
				2	70.8
				3	91.6
				4	107.0
			1500	1	85.5
				2	66.2
				3	81.6
				4	112.4
	10		830	1	86.2
				2	66.2
				3	73.1
				4	100.9
			930	1	83.9
				2	66.2
				3	74.7
				4	105.5
			1030	1	75.5
				2	64.7
				3	84.7
				4	111.6
			1130	1	88.5
				2	62.4
				3	107.0
				4	142.4
			1300	1	79.3
				2	63.1
				3	83.2
				4	127.8
			1400	1	89.3
				2	60.8
				3	81.6
				4	120.9

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
79	10	10	1500	1	115.5
				2	78.5
				3	80.1
				4	122.4
		16	830	1	86.2
				2	62.4
				3	44.7
				4	130.1
			930	1	87.8
				2	48.5
				3	74.7
				4	125.5
			1030	1	67.0
				2	50.8
				3	101.6
				4	133.2
			1130	1	75.5
				2	53.9
				3	90.1
				4	132.4
			1300	1	106.3
				2	67.8
				3	72.4
				4	126.3
			1400	1	90.9
				2	54.7
				3	89.3
				4	99.3
			1500	1	93.9
				2	73.9
				3	70.8
				4	110.9
		25	830	1	138.6
				2	97.8
				3	118.6
				4	145.5
			930	1	112.4
				2	88.5
				3	103.2
				4	134.8
			1030	1	113.2
				2	99.3
				3	134.8
				4	143.2
			1130	1	111.6
				2	90.9
				3	96.3
				4	154.8
			1300	1	107.8
				2	87.0
				3	103.2

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
79	10	25	1300	4	132.4
				1	108.6
				2	93.2
				3	100.9
			1400	4	130.9
				1	110.9
				2	90.9
				3	93.2
			1500	4	84.7
				1	114.7
				2	86.2
				3	105.5
			28	4	147.1
				1	120.9
				2	90.9
				3	87.0
			930	4	136.3
				1	134.0
				2	117.8
				3	148.6
			1030	4	161.7
				1	93.2
				2	93.2
				3	142.4
			1130	4	177.9
				1	92.4
				2	69.3
				3	140.1
			1300	4	146.3
				1	95.5
				2	76.2
				3	108.6
			1400	4	150.9
				1	129.4
				2	72.4
				3	96.3
			1500	4	162.5
				1	127.0
				2	81.6
				3	96.3
			11	4	131.7
				1	94.7
				2	65.4
				3	68.5
			3	4	146.3
				1	81.6
				2	68.5
				3	63.9
			830	4	146.3
				1	94.7
				2	67.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
79	11	3	1130	3	67.0
				4	141.7
				1	114.0
				2	100.9
			1300	3	107.8
				4	150.1
				1	127.0
				2	116.3
			1400	3	126.3
				4	169.4
				1	107.0
				2	86.2
			1500	3	132.4
				4	168.6
		9	830	1	57.0
				2	47.0
				3	47.0
				4	67.0
			930	1	75.5
				2	46.2
				3	73.1
				4	85.5
			1030	1	48.5
				2	51.6
				3	53.9
				4	40.0
			1130	1	57.8
				2	52.4
				3	61.6
				4	74.7
			1300	1	83.9
				2	64.7
				3	59.3
				4	99.3
			1400	1	85.5
				2	69.3
				3	73.9
				4	93.9
			1500	1	74.7
				2	81.6
				3	60.8
				4	89.3
	15		830	1	109.3
				2	103.9
				3	143.2
				4	163.2
			930	1	133.2
				2	115.5
				3	136.3
				4	164.8
			1030	1	117.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	----	----	-----
79	11	15	1030	2	97.0
				3	117.0
				4	181.7
			1130	1	111.6
				2	93.9
				3	115.5
				4	194.8
			1300	1	145.5
				2	109.3
				3	107.8
				4	179.4
			1400	1	130.1
				2	113.2
				3	120.1
				4	169.4
			1500	1	137.1
				2	114.7
				3	117.0
				4	150.9
80	5	4	730	1	83.9
				2	67.0
				3	99.3
				4	107.0
			830	1	80.1
				2	90.1
				3	70.8
				4	189.4
			930	1	109.3
				2	74.7
				3	77.0
				4	132.4
			1030	1	88.5
				2	66.2
				3	86.2
				4	118.6
			1200	1	84.7
				2	66.2
				3	78.5
				4	106.3
			1300	1	60.8
				2	55.4
				3	53.1
				4	131.7
			1400	1	53.1
				2	49.3
				3	114.0
				4	100.9
		10	730	1	77.0
				2	67.0
				3	90.9
				4	68.5

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
---	---	---	---	---	---
80	5	10	830	1	89.3
				2	53.1
				3	67.0
				4	160.2
			930	1	68.5
				2	62.4
				3	69.3
				4	136.3
			1030	1	72.4
				2	54.7
				3	80.1
				4	116.3
			1200	1	115.5
				2	78.5
				3	69.3
				4	100.1
			1300	1	103.9
				2	55.4
				3	62.4
				4	87.8
			1400	1	107.0
				2	59.3
				3	63.1
				4	86.2
	16		730	1	63.1
				2	68.5
				3	109.3
				4	53.1
			830	1	71.6
				2	53.9
				3	36.2
				4	73.1
			930	1	75.5
				2	57.0
				3	44.7
				4	84.7
			1030	1	67.0
				2	62.4
				3	49.3
				4	.0
			1200	1	70.8
				2	63.9
				3	20.0
				4	106.3
			1300	1	.0
				2	.0
				3	.0
				4	.0
			1400	1	49.3
				2	39.3
				3	26.2

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
80	5	16	1400	4	78.5
				1	77.8
				2	73.1
				3	90.9
				4	114.0
			830	1	83.2
				2	70.1
				3	83.9
				4	103.9
			930	1	73.9
				2	67.8
				3	88.5
				4	127.0
			1030	1	80.1
				2	67.0
				3	77.8
				4	100.9
			1200	1	73.1
				2	58.5
				3	64.7
				4	103.2
			1300	1	66.2
				2	56.2
				3	66.2
				4	100.1
			1400	1	67.0
				2	50.0
				3	65.4
				4	92.4
	6	3	730	1	68.5
				2	68.5
				3	83.2
				4	112.4
			830	1	78.5
				2	70.8
				3	87.0
				4	108.6
			930	1	64.7
				2	63.9
				3	70.1
				4	122.4
			1030	1	69.3
				2	58.5
				3	62.4
				4	95.5
			1200	1	58.5
				2	53.9
				3	55.4
				4	103.9
			1300	1	59.3
				2	49.3

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
80	6	3	1300	3	52.4
				4	67.8
				1	57.8
				2	45.4
			1400	3	47.7
				4	71.6
				1	105.5
				2	79.3
			730	3	102.4
				4	117.8
				1	80.1
				2	77.8
			830	3	89.3
				4	132.4
				1	79.3
				2	82.4
			930	3	86.2
				4	141.7
				1	88.5
				2	82.4
			1030	3	81.6
				4	155.5
				1	87.0
				2	80.1
			1200	3	105.5
				4	122.4
				1	102.4
				2	84.7
			1300	3	96.3
				4	109.3
				1	97.8
				2	88.5
			1400	3	101.6
				4	127.0
		15	730	1	98.6
				2	78.5
				3	99.3
				4	85.5
			830	1	96.3
				2	78.5
				3	81.6
				4	88.5
			930	1	100.9
				2	77.0
				3	82.4
				4	103.9
			1030	1	101.6
				2	77.8
				3	86.2
				4	120.9
			1200	1	95.5

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	-----	-----
80	6	15	1200	2	87.8
				3	84.7
				4	114.7
			1300	1	114.7
				2	86.2
				3	84.7
				4	125.5
			1400	1	98.6
				2	77.8
				3	96.3
				4	112.4
	21		730	1	69.3
				2	73.1
				3	84.7
				4	86.2
			830	1	67.8
				2	67.8
				3	75.5
				4	93.9
			930	1	84.7
				2	63.1
				3	73.9
				4	112.4
			1030	1	66.2
				2	64.7
				3	73.1
				4	83.9
			1200	1	79.3
				2	67.8
				3	72.4
				4	97.0
			1300	1	75.5
				2	70.8
				3	73.9
				4	88.5
			1400	1	72.4
				2	69.3
				3	71.6
				4	106.3
	27		730	1	57.0
				2	52.4
				3	67.0
				4	71.6
			830	1	58.5
				2	45.4
				3	57.8
				4	74.7
			930	1	60.8
				2	46.2
				3	65.4
				4	78.5

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	----	----	-----
80	6	27	1030	1	73.1
				2	56.2
				3	61.6
				4	85.5
			1200	1	72.4
				2	56.2
				3	67.0
				4	95.5
			1300	1	81.6
				2	61.6
				3	69.3
				4	86.2
			1400	1	86.2
				2	66.2
				3	80.1
				4	83.9
	7	3	730	1	82.4
				2	75.5
				3	111.6
				4	105.5
			830	1	90.1
				2	76.2
				3	113.2
				4	143.2
			930	1	77.0
				2	79.3
				3	87.0
				4	105.5
			1030	1	89.3
				2	73.9
				3	137.1
				4	110.1
			1200	1	110.9
				2	80.1
				3	109.3
				4	153.2
			1300	1	88.5
				2	98.6
				3	94.7
				4	127.8
			1400	1	96.3
				2	81.6
				3	100.1
				4	135.5
	10	1	830	1	100.1
				2	83.9
				3	98.6
				4	117.0
			930	1	103.9
				2	89.3
				3	101.6

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
80	10	1	930	4	115.5
			1030	1	90.9
				2	76.2
				3	103.9
				4	123.2
			1130	1	115.5
				2	83.9
				3	98.6
				4	111.6
			1300	1	108.6
				2	82.4
				3	97.8
				4	134.8
			1400	1	110.1
				2	87.8
				3	94.7
				4	126.3
			1500	1	114.7
				2	90.9
				3	90.1
				4	132.4
		7	830	1	84.7
				2	73.9
				3	87.0
				4	108.6
			930	1	79.3
				2	68.5
				3	76.2
				4	97.0
			1030	1	78.5
				2	65.4
				3	83.2
				4	107.8
			1130	1	72.4
				2	64.7
				3	70.1
				4	104.7
			1300	1	78.5
				2	53.9
				3	73.1
				4	102.4
			1400	1	77.0
				2	58.5
				3	77.0
				4	95.5
			1500	1	75.5
				2	63.9
				3	73.1
				4	96.3
		13	830	1	162.5
				2	55.4

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
80	10	13	830	3	77.0
				4	130.1
			930	1	40.8
				2	42.3
				3	99.3
				4	111.6
			1030	1	69.3
				2	44.7
				3	54.7
				4	84.7
			1130	1	71.6
				2	52.4
				3	46.2
				4	80.8
			1300	1	46.2
				2	76.2
				3	27.7
				4	44.7
			1400	1	68.5
				2	52.4
				3	10.0
				4	88.5
			1500	1	72.4
				2	61.6
				3	54.7
				4	71.6
	19		830	1	95.5
				2	73.1
				3	71.6
				4	75.5
			930	1	90.9
				2	71.6
				3	56.2
				4	73.9
			1030	1	87.8
				2	70.1
				3	50.0
				4	42.3
			1130	1	77.0
				2	67.0
				3	42.3
				4	50.8
			1300	1	73.1
				2	73.9
				3	46.2
				4	51.6
			1400	1	80.8
				2	61.6
				3	53.1
				4	73.1
			1500	1	77.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	----	----	-----
80	10	19	1500	2	60.1
				3	57.8
				4	57.8
		25	830	1	114.0
				2	95.5
				3	115.5
				4	149.4
			930	1	110.1
				2	92.4
				3	113.2
				4	195.6
			1030	1	108.6
				2	88.5
				3	109.3
				4	189.4
			1130	1	111.6
				2	90.9
				3	104.7
				4	143.2
			1300	1	106.3
				2	89.3
				3	99.3
				4	116.3
			1400	1	112.4
				2	89.3
				3	101.6
				4	140.1
			1500	1	114.7
				2	95.5
				3	103.2
				4	131.7
		31	830	1	120.1
				2	87.8
				3	91.6
				4	127.0
			930	1	112.4
				2	93.2
				3	97.0
				4	164.0
			1030	1	107.8
				2	87.0
				3	95.5
				4	117.0
			1130	1	107.0
				2	93.9
				3	102.4
				4	131.7
			1300	1	103.2
				2	85.5
				3	95.5
				4	130.9

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
80	10	31	1400	1	111.6
				2	87.0
				3	103.2
				4	151.7
			1500	1	99.3
				2	87.0
				3	110.9
				4	140.9
	11	6	830	1	93.9
				2	78.5
				3	108.6
				4	132.4
			930	1	103.9
				2	68.5
				3	126.3
				4	150.9
			1030	1	116.3
				2	83.2
				3	130.9
				4	176.3
			1130	1	133.2
				2	109.3
				3	95.5
				4	191.7
			1300	1	152.5
				2	158.6
				3	96.3
				4	183.3
			1400	1	119.3
				2	117.0
				3	127.0
				4	124.7
			1500	1	105.5
				2	80.8
				3	53.1
				4	110.1
		12	830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	.0
				2	.0
				3	.0
				4	.0
			1130	1	.0
				2	.0
				3	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
80	11	12	1130	4	.0
			1300	1	.0
				2	.0
				3	.0
				4	.0
			1400	1	.0
				2	.0
				3	.0
				4	.0
			1500	1	.0
				2	.0
				3	.0
				4	.0
	18		830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	.0
				2	.0
				3	.0
				4	.0
			1130	1	.0
				2	.0
				3	.0
				4	.0
			1300	1	.0
				2	.0
				3	.0
				4	.0
			1400	1	.0
				2	.0
				3	.0
				4	.0
			1500	1	.0
				2	.0
				3	.0
				4	.0
	24		830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	.0
				2	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
80	11	24	1030	3	.0
				4	.0
			1130	1	.0
				2	.0
				3	.0
				4	.0
			1300	1	52.4
				2	65.4
				3	50.8
				4	25.4
			1400	1	.0
				2	.0
				3	.0
				4	.0
			1500	1	.0
				2	.0
				3	.0
				4	.0
		30	830	1	89.3
				2	92.4
				3	90.9
				4	180.2
			930	1	54.7
				2	58.5
				3	76.2
				4	117.8
			1030	1	53.9
				2	37.7
				3	89.3
				4	125.5
			1130	1	70.8
				2	54.7
				3	60.1
				4	131.7
			1300	1	78.5
				2	54.7
				3	46.2
				4	95.5
			1400	1	98.6
				2	73.1
				3	51.6
				4	67.0
			1500	1	100.1
				2	76.2
				3	73.1
				4	110.9
81	5	8	730	1	121.7
				2	60.8
				3	53.9
				4	81.6
			830	1	67.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
81	5	8	830	2	83.9
				3	61.6
				4	126.3
			930	1	57.0
				2	50.8
				3	24.6
				4	70.8
			1030	1	.0
				2	.0
				3	.0
				4	71.6
			1200	1	.0
				2	.0
				3	.0
				4	.0
			1300	1	.0
				2	.0
				3	.0
				4	.0
			1400	1	.0
				2	.0
				3	.0
				4	.0
	14		730	1	113.2
				2	107.8
				3	115.5
				4	164.8
			830	1	106.3
				2	100.9
				3	107.8
				4	155.5
			930	1	102.4
				2	93.9
				3	97.0
				4	157.8
			1030	1	100.1
				2	87.8
				3	93.9
				4	154.0
			1200	1	79.3
				2	83.2
				3	83.2
				4	125.5
			1300	1	74.7
				2	65.4
				3	71.6
				4	89.3
			1400	1	73.9
				2	59.3
				3	74.7
				4	87.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
81	5	21	730	1	41.6
				2	47.0
				3	48.5
				4	100.1
			830	1	47.0
				2	50.8
				3	44.7
				4	82.4
			930	1	40.8
				2	51.6
				3	52.4
				4	93.2
			1030	1	50.0
				2	52.4
				3	50.8
				4	126.3
			1200	1	60.1
				2	57.0
				3	73.9
				4	94.7
			1300	1	64.7
				2	79.3
				3	74.7
				4	93.9
			1400	1	45.4
				2	44.7
				3	47.7
				4	94.7
		27	730	1	67.0
				2	68.5
				3	60.8
				4	99.3
			830	1	68.5
				2	65.4
				3	68.5
				4	96.3
			930	1	67.8
				2	58.5
				3	65.4
				4	63.9
			1030	1	80.8
				2	70.1
				3	68.5
				4	116.3
			1200	1	51.6
				2	57.8
				3	44.7
				4	81.6
			1300	1	78.5
				2	93.9
				3	49.3

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
81	5	27	1300	4	58.5
				1	73.1
				2	60.1
				3	63.1
		30	730	4	101.6
				1	47.0
				2	55.4
				3	63.9
				4	.0
			830	1	48.5
				2	51.6
				3	63.1
				4	80.8
			930	1	49.3
				2	48.5
				3	53.1
				4	67.0
			1030	1	49.3
				2	46.2
				3	49.3
				4	75.5
			1200	1	57.0
				2	47.0
				3	50.8
				4	77.0
			1300	1	53.1
				2	50.8
				3	49.3
				4	73.9
			1400	1	56.2
				2	49.3
				3	49.3
				4	66.2
	6	2	730	1	61.6
				2	54.7
				3	57.8
				4	75.5
			830	1	59.3
				2	53.9
				3	57.0
				4	71.6
			930	1	57.0
				2	53.1
				3	54.7
				4	70.8
			1030	1	56.2
				2	51.6
				3	53.9
				4	77.0
			1200	1	60.8
				2	52.4

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	-----	-----
81	6	2	1200	3	51.6
				4	73.9
			1300	1	57.8
				2	52.4
				3	50.0
				4	70.1
			1400	1	63.9
				2	55.4
				3	52.4
				4	66.2
		5	730	1	71.6
				2	64.7
				3	70.8
				4	103.2
			830	1	63.9
				2	59.3
				3	73.9
				4	88.5
			930	1	71.6
				2	61.6
				3	73.9
				4	93.2
			1030	1	77.0
				2	69.3
				3	69.3
				4	99.3
			1200	1	83.9
				2	73.1
				3	67.8
				4	107.0
			1300	1	90.9
				2	77.8
				3	66.2
				4	101.6
			1400	1	95.5
				2	80.8
				3	77.0
				4	93.9
		8	730	1	87.0
				2	90.1
				3	96.3
				4	115.5
			830	1	72.4
				2	71.6
				3	87.8
				4	118.6
			930	1	66.2
				2	67.0
				3	87.8
				4	125.5
			1030	1	73.1

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
81	6	8	1030	2	67.8
				3	84.7
				4	125.5
			1200	1	79.3
				2	74.7
				3	77.0
				4	112.4
			1300	1	83.2
				2	76.2
				3	87.0
				4	110.9
			1400	1	81.6
				2	77.0
				3	85.5
				4	104.7
		11	730	1	102.4
				2	96.3
				3	107.8
				4	110.1
			830	1	97.8
				2	90.1
				3	97.8
				4	107.0
			930	1	93.9
				2	86.2
				3	88.5
				4	93.9
			1030	1	89.3
				2	79.3
				3	79.3
				4	93.9
			1200	1	77.8
				2	69.3
				3	65.4
				4	99.3
			1300	1	77.0
				2	68.5
				3	67.0
				4	100.9
			1400	1	78.5
				2	68.5
				3	71.6
				4	104.7
		17	730	1	60.1
				2	58.5
				3	58.5
				4	75.5
			830	1	51.6
				2	50.0
				3	47.0
				4	83.2

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
81	6	17	930	1	60.1
				2	46.2
				3	37.7
				4	68.5
			1030	1	50.0
				2	42.3
				3	39.3
				4	52.4
			1200	1	57.0
				2	45.4
				3	46.2
				4	65.4
			1300	1	78.5
				2	66.2
				3	59.3
				4	74.7
			1400	1	79.3
				2	69.3
				3	67.0
				4	69.3
	9	3	730	1	117.8
				2	100.9
				3	64.7
				4	244.9
			830	1	93.2
				2	78.5
				3	96.3
				4	103.9
			930	1	85.5
				2	74.7
				3	95.5
				4	101.6
			1030	1	75.5
				2	67.8
				3	70.8
				4	99.3
			1200	1	72.4
				2	62.4
				3	67.0
				4	95.5
			1300	1	72.4
				2	64.7
				3	75.5
				4	84.7
			1400	1	78.5
				2	56.2
				3	67.8
				4	79.3
		9	730	1	81.6
				2	83.2
				3	121.7

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
81	9	9	730	4	221.0
			830	1	92.4
				2	70.8
				3	105.5
				4	172.5
			930	1	83.9
				2	72.4
				3	98.6
				4	102.4
			1030	1	93.2
				2	74.7
				3	97.8
				4	93.9
			1200	1	99.3
				2	80.1
				3	87.0
				4	97.0
			1300	1	94.7
				2	80.8
				3	76.2
				4	58.5
			1400	1	125.5
				2	85.5
				3	87.0
				4	40.0
		15	730	1	73.9
				2	66.2
				3	83.2
				4	105.5
			830	1	70.1
				2	63.1
				3	81.6
				4	97.0
			930	1	66.2
				2	62.4
				3	73.1
				4	90.1
			1030	1	67.0
				2	57.8
				3	70.1
				4	94.7
			1200	1	66.2
				2	55.4
				3	66.2
				4	70.1
			1300	1	64.7
				2	54.7
				3	70.1
				4	80.8
			1400	1	67.0
				2	50.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
81	9	15	1400	3	55.4
				4	69.3
		21	730	1	67.0
				2	62.4
				3	70.8
				4	72.4
			830	1	64.7
				2	59.3
				3	66.2
				4	78.5
			930	1	60.8
				2	52.4
				3	57.0
				4	67.0
			1030	1	57.8
				2	50.8
				3	54.7
				4	67.8
			1200	1	60.8
				2	49.3
				3	48.5
				4	73.9
			1300	1	57.0
				2	52.4
				3	60.8
				4	73.9
			1400	1	73.9
				2	63.1
				3	98.6
				4	57.0
		24	730	1	62.4
				2	60.8
				3	66.2
				4	98.6
			830	1	72.4
				2	61.6
				3	67.0
				4	78.5
			930	1	64.7
				2	60.8
				3	68.5
				4	78.5
			1030	1	73.9
				2	63.9
				3	67.0
				4	73.9
			1200	1	83.9
				2	73.1
				3	77.8
				4	30.0
			1300	1	100.9

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
81	9	24	1300	2	98.6
				3	82.4
				4	90.9
			1400	1	94.7
				2	82.4
				3	114.0
				4	25.4
	10	6	830	1	68.5
				2	64.7
				3	70.1
				4	83.9
			930	1	70.8
				2	61.6
				3	65.4
				4	85.5
			1030	1	73.9
				2	61.6
				3	65.4
				4	81.6
			1130	1	65.4
				2	61.6
				3	67.0
				4	98.6
			1300	1	66.2
				2	57.0
				3	65.4
				4	89.3
			1400	1	68.5
				2	60.8
				3	64.7
				4	104.7
			1500	1	75.5
				2	59.3
				3	66.2
				4	99.3
	12	830	830	1	.0
				2	.0
				3	.0
				4	.0
			930	1	.0
				2	.0
				3	.0
				4	.0
			1030	1	56.2
				2	.0
				3	63.9
				4	83.2
			1130	1	.0
				2	80.1
				3	97.0
				4	100.9

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
81	10	12	1300	1	53.9
				2	61.6
				3	.0
				4	90.9
			1400	1	91.6
				2	101.6
				3	95.5
				4	97.8
			1500	1	83.2
				2	78.5
				3	123.2
				4	97.0
		21	830	1	102.4
				2	88.5
				3	107.8
				4	124.7
			930	1	93.9
				2	87.0
				3	93.2
				4	114.0
			1030	1	90.1
				2	77.8
				3	97.8
				4	116.3
			1130	1	85.5
				2	67.0
				3	88.5
				4	108.6
			1300	1	81.6
				2	73.1
				3	81.6
				4	103.2
			1400	1	95.5
				2	68.5
				3	81.6
				4	111.6
			1500	1	87.0
				2	70.8
				3	76.2
				4	111.6
		27	830	1	100.1
				2	87.0
				3	108.6
				4	125.5
			930	1	93.9
				2	89.3
				3	100.1
				4	134.8
			1030	1	82.4
				2	67.0
				3	77.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	----	----	-----
81	10	27	1030	4	109.3
			1130	1	77.0
				2	67.8
				3	76.2
				4	124.7
			1300	1	95.5
				2	75.5
				3	76.2
				4	102.4
			1400	1	79.3
				2	68.5
				3	70.1
				4	100.9
			1500	1	82.4
				2	87.0
				3	79.3
				4	114.7
	11	4	830	1	114.0
				2	98.6
				3	126.3
				4	166.3
			930	1	107.0
				2	100.1
				3	120.1
				4	174.0
			1030	1	110.9
				2	104.7
				3	114.0
				4	150.1
			1130	1	109.3
				2	100.1
				3	104.7
				4	157.1
			1300	1	112.4
				2	93.9
				3	106.3
				4	134.0
			1400	1	110.1
				2	91.6
				3	103.2
				4	135.5
			1500	1	114.7
				2	93.9
				3	101.6
				4	137.1
82	5	3	730	1	74.7
				2	83.9
				3	97.0
				4	77.0
			830	1	77.8
				2	82.4

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
82	5	3	830	3	73.9
				4	88.5
			930	1	69.3
				2	86.2
				3	70.1
				4	66.2
			1030	1	67.8
				2	80.8
				3	53.9
				4	97.0
			1200	1	45.4
				2	94.7
				3	56.2
				4	149.4
			1300	1	77.8
				2	55.4
				3	101.6
				4	154.8
			1400	1	88.5
				2	77.0
				3	90.9
				4	124.7
		7	730	1	78.5
				2	74.7
				3	75.5
				4	149.4
			830	1	80.8
				2	67.8
				3	87.8
				4	89.3
			930	1	88.5
				2	87.0
				3	84.7
				4	138.6
			1030	1	101.6
				2	80.8
				3	87.0
				4	188.6
			1200	1	121.7
				2	93.2
				3	124.0
				4	199.4
			1300	1	122.4
				2	95.5
				3	118.6
				4	134.8
			1400	1	83.2
				2	98.6
				3	112.4
				4	97.0
		11	730	1	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
82	5	11	730	2	.0
				3	.0
				4	.0
			830	1	61.6
				2	47.0
				3	50.8
				4	.0
			930	1	46.2
				2	67.8
				3	179.4
				4	83.9
			1030	1	81.6
				2	.0
				3	41.6
				4	.0
			1200	1	.0
				2	.0
				3	57.8
				4	91.6
			1300	1	85.5
				2	77.8
				3	77.0
				4	87.8
			1400	1	.0
				2	.0
				3	56.2
				4	43.9
	19		730	1	55.4
				2	61.6
				3	78.5
				4	89.3
			830	1	36.2
				2	33.9
				3	80.1
				4	106.3
			930	1	49.3
				2	65.4
				3	41.6
				4	123.2
			1030	1	70.1
				2	56.2
				3	48.5
				4	60.8
			1200	1	60.8
				2	55.4
				3	57.0
				4	83.2
			1300	1	69.3
				2	22.3
				3	48.5
				4	65.4

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
82	5	19	1400	1	.0
				2	50.8
				3	20.8
				4	97.0
		23	730	1	63.1
				2	70.1
				3	70.8
				4	94.7
			830	1	60.8
				2	77.0
				3	86.2
				4	107.8
			930	1	53.1
				2	53.1
				3	63.1
				4	87.0
			1030	1	67.8
				2	60.1
				3	66.2
				4	94.7
			1200	1	70.8
				2	70.8
				3	64.7
				4	111.6
			1300	1	73.1
				2	69.3
				3	76.2
				4	100.9
			1400	1	82.4
				2	67.8
				3	64.7
				4	96.3
		27	730	1	77.0
				2	66.2
				3	81.6
				4	120.1
			830	1	82.4
				2	71.6
				3	81.6
				4	100.1
			930	1	79.3
				2	77.8
				3	77.0
				4	102.4
			1030	1	80.8
				2	76.2
				3	79.3
				4	120.9
			1200	1	80.8
				2	90.1
				3	73.9

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
82	5	27	1200	4	102.4
			1300	1	73.9
				2	83.9
				3	80.8
				4	110.1
			1400	1	43.1
				2	73.1
				3	80.8
				4	120.9
	6	4	730	1	95.5
				2	92.4
				3	106.3
				4	141.7
			830	1	89.3
				2	85.5
				3	99.3
				4	134.0
			930	1	83.2
				2	77.8
				3	85.5
				4	122.4
			1030	1	75.5
				2	71.6
				3	77.0
				4	111.6
			1200	1	71.6
				2	72.4
				3	72.4
				4	90.1
			1300	1	67.8
				2	66.2
				3	77.0
				4	86.2
			1400	1	70.8
				2	60.1
				3	62.4
				4	77.8
		8	730	1	75.5
				2	70.8
				3	83.2
				4	93.9
			830	1	73.9
				2	67.8
				3	70.8
				4	94.7
			930	1	67.8
				2	65.4
				3	69.3
				4	90.9
			1030	1	82.4
				2	63.1

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
82	6	8	1030	3	66.2
				4	84.7
			1200	1	78.5
				2	63.9
				3	64.7
				4	95.5
			1300	1	73.1
				2	62.4
				3	66.2
				4	96.3
			1400	1	80.8
				2	64.7
				3	77.0
				4	83.9
		12	730	1	110.9
				2	104.7
				3	134.8
				4	207.1
			830	1	92.4
				2	87.8
				3	98.6
				4	130.1
			930	1	97.0
				2	92.4
				3	98.6
				4	133.2
			1030	1	95.5
				2	86.2
				3	93.9
				4	125.5
			1200	1	97.8
				2	100.1
				3	87.0
				4	59.3
			1300	1	100.1
				2	94.7
				3	95.5
				4	130.9
			1400	1	107.8
				2	95.5
				3	77.0
				4	117.8
		16	730	1	94.7
				2	90.1
				3	91.6
				4	123.2
			830	1	90.9
				2	83.2
				3	92.4
				4	134.8
			930	1	98.6

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
82	6	16	930	2	86.2
				3	112.4
				4	134.8
			1030	1	83.2
				2	77.8
				3	84.7
				4	93.9
			1200	1	102.4
				2	85.5
				3	87.8
				4	132.4
			1300	1	107.0
				2	80.8
				3	100.1
				4	125.5
			1400	1	103.9
				2	111.6
				3	101.6
				4	134.0
	9	4	730	1	83.9
				2	69.3
				3	81.6
				4	86.2
			830	1	78.5
				2	73.1
				3	77.8
				4	91.6
			930	1	77.8
				2	60.8
				3	76.2
				4	104.7
			1030	1	73.9
				2	68.5
				3	67.0
				4	96.3
			1200	1	77.0
				2	73.9
				3	75.5
				4	74.7
			1300	1	69.3
				2	65.4
				3	79.3
				4	77.8
			1400	1	85.5
				2	57.8
				3	83.9
				4	89.3
		8	730	1	.0
				2	.0
				3	.0
				4	.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	----	----	-----
82	9	8	830	1	104.7
				2	84.7
				3	26.2
				4	57.8
			930	1	85.5
				2	71.6
				3	71.6
				4	72.4
			1030	1	93.2
				2	73.1
				3	79.3
				4	108.6
			1200	1	88.5
				2	74.7
				3	104.7
				4	104.7
			1300	1	67.0
				2	75.5
				3	124.0
				4	154.0
			1400	1	105.5
				2	40.8
				3	60.1
				4	151.7
	16		730	1	101.6
				2	100.9
				3	117.0
				4	222.5
			830	1	93.2
				2	94.7
				3	110.9
				4	154.0
			930	1	88.5
				2	80.8
				3	105.5
				4	139.4
			1030	1	93.2
				2	87.8
				3	95.5
				4	120.1
			1200	1	98.6
				2	84.7
				3	96.3
				4	118.6
			1300	1	102.4
				2	86.2
				3	84.7
				4	140.9
			1400	1	107.0
				2	86.2
				3	91.6

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
82	9	16	1400	4	121.7
		20	730	1	125.5
				2	134.0
				3	120.9
				4	.0
			830	1	86.2
				2	77.0
				3	48.5
				4	23.9
			930	1	80.1
				2	70.8
				3	97.8
				4	67.0
			1030	1	87.8
				2	57.0
				3	92.4
				4	102.4
			1200	1	90.1
				2	73.9
				3	90.1
				4	136.3
			1300	1	97.0
				2	77.8
				3	74.7
				4	75.5
			1400	1	102.4
				2	73.1
				3	78.5
				4	114.0
	24		730	1	94.7
				2	90.1
				3	101.6
				4	135.5
			830	1	93.2
				2	83.9
				3	93.9
				4	125.5
			930	1	96.3
				2	78.5
				3	88.5
				4	124.7
			1030	1	90.9
				2	80.8
				3	86.2
				4	124.0
			1200	1	94.7
				2	87.8
				3	92.4
				4	128.6
			1300	1	119.3
				2	90.1

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	-----	-----
82	9	24	1300	3	103.9
				4	131.7
				1	100.1
				2	107.0
			730	3	98.6
				4	142.4
				1	88.5
				2	134.0
				3	106.3
			830	4	50.8
				1	72.4
				2	57.0
				3	66.2
			930	4	42.3
				1	78.5
				2	108.6
				3	120.1
			1030	4	177.1
				1	69.3
				2	57.8
				3	77.8
			1200	4	94.7
				1	66.2
				2	67.0
				3	53.9
			1300	4	120.9
				1	46.2
				2	71.6
				3	16.2
			1400	4	.0
				1	68.5
				2	93.2
				3	143.2
			10	2	830	4	150.9
	1	112.4			
	2	83.2			
	3	108.6			
	930	4			136.3
		1			96.3
		2			80.1
		3			105.5
	1030	4			125.5
		1			94.7
		2			80.1
		3			90.9
	1130	4			118.6
		1			89.3
		2			77.0
		3			107.8
	1300	4			120.1
		1	90.9		

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
82	10	2	1300	2	61.6
				3	93.2
				4	124.7
			1400	1	93.9
				2	73.9
				3	94.7
				4	123.2
			1500	1	97.0
				2	74.7
				3	86.2
				4	120.1
		6	830	1	.0
				2	.0
				3	68.5
				4	127.8
			930	1	.0
				2	.0
				3	50.8
				4	97.0
			1030	1	.0
				2	.0
				3	38.5
				4	90.9
			1130	1	61.6
				2	51.6
				3	50.0
				4	93.9
			1300	1	83.2
				2	74.7
				3	91.6
				4	108.6
			1400	1	97.8
				2	80.8
				3	93.2
				4	138.6
			1500	1	103.9
				2	82.4
				3	94.7
				4	129.4
	10	830		1	103.2
				2	90.1
				3	124.7
				4	137.1
		930		1	103.2
				2	91.6
				3	60.8
				4	116.3
		1030		1	91.6
				2	80.8
				3	86.2
				4	97.8

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	-----	----	-----
82	10	10	1130	1	96.3
				2	77.0
				3	69.3
				4	57.0
			1300	1	94.7
				2	81.6
				3	92.4
				4	79.3
			1400	1	101.6
				2	83.9
				3	74.7
				4	67.0
			1500	1	121.7
				2	103.2
				3	121.7
				4	171.7
		14	830	1	70.8
				2	67.0
				3	60.8
				4	103.9
			930	1	74.7
				2	68.5
				3	65.4
				4	114.7
			1030	1	89.3
				2	84.7
				3	83.9
				4	117.8
			1130	1	83.9
				2	69.3
				3	90.1
				4	139.4
			1300	1	84.7
				2	70.1
				3	77.0
				4	131.7
			1400	1	83.9
				2	71.6
				3	67.0
				4	143.2
			1500	1	83.9
				2	75.5
				3	67.8
				4	117.8
18		830		1	96.3
				2	83.2
				3	97.8
				4	141.7
		930		1	90.9
				2	81.6
				3	93.2

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
82	10	18	930	4	114.0
			1030	1	87.0
				2	75.5
				3	95.5
				4	126.3
			1130	1	89.3
				2	68.5
				3	123.2
				4	114.7
			1300	1	97.8
				2	80.1
				3	117.0
				4	137.1
			1400	1	94.7
				2	82.4
				3	84.7
				4	129.4
			1500	1	95.5
				2	73.1
				3	84.7
				4	114.7
		22	830	1	127.8
				2	99.3
				3	137.1
				4	113.2
			930	1	101.6
				2	95.5
				3	109.3
				4	150.1
			1030	1	100.9
				2	112.4
				3	117.0
				4	138.6
			1130	1	118.6
				2	77.0
				3	146.3
				4	155.5
			1300	1	100.1
				2	82.4
				3	147.1
				4	188.6
			1400	1	103.2
				2	85.5
				3	110.1
				4	187.1
			1500	1	113.2
				2	100.1
				3	69.3
				4	156.3
83	5	4	830	1	65.0
				2	57.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
83	5	4	830	3	50.0
				4	64.0
			930	1	74.0
				2	51.0
				3	57.0
				4	84.0
			1030	1	83.0
				2	63.0
				3	74.0
				4	90.0
			1130	1	83.0
				2	69.0
				3	62.0
				4	51.0
			1300	1	88.0
				2	82.0
				3	57.0
				4	70.0
			1400	1	90.0
				2	81.0
				3	43.0
				4	41.0
			1500	1	96.0
				2	81.0
				3	61.0
				4	71.0
	12		830	1	123.0
				2	97.0
				3	88.0
				4	75.0
			930	1	99.0
				2	92.0
				3	72.0
				4	148.0
			1030	1	121.0
				2	80.0
				3	96.0
				4	110.0
			1130	1	99.0
				2	75.0
				3	65.0
				4	79.0
			1300	1	82.0
				2	74.0
				3	56.0
				4	114.0
			1400	1	61.0
				2	65.0
				3	69.0
				4	106.0
			1500	1	74.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
83	5	12	1500	2	.0
				3	64.0
				4	93.0
		24	830	1	89.0
				2	85.0
				3	81.0
				4	121.0
			930	1	88.0
				2	75.0
				3	72.0
				4	100.0
			1030	1	82.0
				2	70.0
				3	70.0
				4	82.0
			1130	1	84.0
				2	75.0
				3	63.0
				4	63.0
			1300	1	83.0
				2	75.0
				3	60.0
				4	35.0
			1400	1	91.0
				2	82.0
				3	58.0
				4	42.0
			1500	1	97.0
				2	90.0
				3	60.0
				4	75.0
		28	830	1	77.0
				2	72.0
				3	67.0
				4	102.0
			930	1	72.0
				2	70.0
				3	59.0
				4	101.0
			1030	1	70.0
				2	66.0
				3	55.0
				4	82.0
			1130	1	71.0
				2	65.0
				3	53.0
				4	107.0
			1300	1	74.0
				2	70.0
				3	43.0
				4	48.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	---	---	----
83	5	28	1400	1	76.0
				2	69.0
				3	48.0
				4	40.0
			1500	1	82.0
				2	65.0
				3	79.0
				4	93.0
	6	1	830	1	32.0
				2	43.0
				3	25.0
				4	50.0
			930	1	46.0
				2	37.0
				3	44.0
				4	51.0
			1030	1	44.0
				2	42.0
				3	35.0
				4	55.0
			1130	1	37.0
				2	52.0
				3	42.0
				4	48.0
			1300	1	42.0
				2	45.0
				3	35.0
				4	41.0
			1400	1	54.0
				2	51.0
				3	40.0
				4	59.0
			1500	1	59.0
				2	47.0
				3	34.0
				4	43.0
		5	830	1	.0
				2	.0
				3	28.0
				4	.0
			930	1	113.0
				2	75.0
				3	.0
				4	.0
			1030	1	117.0
				2	93.0
				3	71.0
				4	61.0
			1130	1	108.0
				2	89.0
				3	66.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	----
83	6	5	1130	4	59.0
			1300	1	93.0
				2	54.0
				3	54.0
				4	100.0
			1400	1	104.0
				2	81.0
				3	51.0
				4	79.0
			1500	1	118.0
				2	82.0
				3	86.0
				4	74.0
		9	830	1	75.0
				2	74.0
				3	73.0
				4	101.0
			930	1	75.0
				2	71.0
				3	63.0
				4	89.0
			1030	1	70.0
				2	69.0
				3	59.0
				4	90.0
			1130	1	87.0
				2	82.0
				3	91.0
				4	83.0
			1300	1	66.0
				2	56.0
				3	51.0
				4	24.0
			1400	1	68.0
				2	50.0
				3	29.0
				4	30.0
			1500	1	69.0
				2	79.0
				3	52.0
				4	83.0
		13	830	1	126.0
				2	91.0
				3	79.0
				4	92.0
			930	1	97.0
				2	90.0
				3	54.0
				4	86.0
			1030	1	110.0
				2	104.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
83	6	13	1030	3	67.0
				4	56.0
			1130	1	76.0
				2	65.0
				3	71.0
				4	69.0
			1300	1	86.0
				2	64.0
				3	45.0
				4	57.0
			1400	1	68.0
				2	83.0
				3	64.0
				4	49.0
			1500	1	119.0
				2	62.0
				3	118.0
				4	105.0
		21	830	1	89.0
				2	78.0
				3	69.0
				4	96.0
			930	1	80.0
				2	72.0
				3	66.0
				4	86.0
			1030	1	81.0
				2	68.0
				3	55.0
				4	81.0
			1130	1	80.0
				2	71.0
				3	59.0
				4	80.0
			1300	1	85.0
				2	65.0
				3	55.0
				4	77.0
			1400	1	93.0
				2	76.0
				3	56.0
				4	72.0
			1500	1	93.0
				2	78.0
				3	56.0
				4	72.0
		25	830	1	.0
				2	.0
				3	113.0
			930	1	.0
				2	90.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
83	6	25	930	3	.0
				4	85.0
			1030	1	61.0
				2	56.0
				3	52.0
				4	89.0
			1130	1	68.0
				2	50.0
				3	54.0
				4	61.0
			1300	1	66.0
				2	59.0
				3	50.0
				4	46.0
			1400	1	69.0
				2	64.0
				3	52.0
				4	.0
			1500	1	71.0
				2	61.0
				3	34.0
				4	46.0
	9	1	830	1	99.0
				2	95.0
				3	91.0
				4	135.0
					127.0
			930	1	94.0
				2	87.0
				3	82.0
				4	127.0
					110.0
			1030	1	86.0
				2	70.0
				3	72.0
				4	133.0
					108.0
			1130	1	53.0
				2	77.0
				3	68.0
				4	136.0
					106.0
			1300	1	102.0
				2	106.0
				3	84.0
				4	60.0
					119.0
			1400	1	79.0
				2	106.0
				3	51.0
				4	68.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	----	-----	-----
83	9	1	1400	4	120.0
			1500	1	96.0
				2	87.0
				3	74.0
				4	76.0
		9	830	1	85.0
				2	67.0
				3	69.0
				4	92.0
			930	1	73.0
				2	58.0
				3	57.0
				4	90.0
			1030	1	71.0
				2	62.0
				3	57.0
				4	79.0
			1130	1	70.0
				2	62.0
				3	63.0
				4	78.0
			1300	1	73.0
				2	60.0
				3	46.0
				4	84.0
			1400	1	88.0
				2	65.0
				3	45.0
				4	61.0
			1500	1	80.0
				2	67.0
				3	50.0
				4	68.0
		17	830	1	96.0
				2	86.0
				3	81.0
				4	102.0
			930	1	74.0
				2	70.0
				3	46.0
				4	92.0
			1030	1	75.0
				2	68.0
				3	64.0
				4	82.0
			1130	1	72.0
				2	54.0
				3	62.0
				4	92.0
			1300	1	78.0
				2	67.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	----	----	----	-----
83	9	17	1300	3	55.0
				4	68.0
			1400	1	88.0
				2	73.0
				3	55.0
				4	74.0
			1500	1	72.0
				2	60.0
				3	44.0
				4	89.0
		21	830	1	104.0
				2	98.0
				3	93.0
				4	134.0
			930	1	93.0
				2	89.0
				3	83.0
				4	104.0
			1030	1	105.0
				2	88.0
				3	78.0
				4	110.0
			1130	1	96.0
				2	72.0
				3	72.0
				4	94.0
			1300	1	86.0
				2	81.0
				3	65.0
				4	81.0
			1400	1	83.0
				2	81.0
				3	59.0
				4	79.0
			1500	1	104.0
				2	80.0
				3	57.0
				4	75.0
		29	830	1	107.0
				2	107.0
				3	83.0
				4	91.0
			930	1	105.0
				2	98.0
				3	92.0
				4	138.0
			1030	1	96.0
				2	87.0
				3	91.0
				4	118.0
			1130	1	118.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	-----
83	9	29	1130	2	91.0
				3	81.0
				4	94.0
			1300	1	133.0
				2	134.0
				3	76.0
				4	84.0
			1400	1	121.0
				2	100.0
				3	88.0
				4	90.0
			1500	1	144.0
				2	91.0
				3	108.0
				4	96.0
	10	3	830	1	51.0
				2	33.0
				3	92.0
				4	130.0
			930	1	.0
				2	39.0
				3	38.0
				4	89.0
			1030	1	.0
				2	32.0
				3	30.0
				4	67.0
			1130	1	.0
				2	44.0
				3	73.0
				4	50.0
			1300	1	.0
				2	.0
				3	.0
				4	.0
			1400	1	.0
				2	.0
				3	45.0
				4	.0
			1500	1	.0
				2	56.0
				3	.0
				4	.0
		11	830	1	117.0
				2	108.0
				3	118.0
				4	78.0
			930	1	104.0
				2	102.0
				3	62.0
				4	84.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	---	----	----	----
83	10	11	1030	1	81.0
				2	93.0
				3	71.0
				4	100.0
			1130	1	129.0
				2	87.0
				3	71.0
				4	78.0
			1300	1	91.0
				2	85.0
				3	78.0
				4	85.0
			1400	1	112.0
				2	90.0
				3	47.0
				4	66.0
			1500	1	117.0
				2	90.0
				3	58.0
				4	74.0
		15	830	1	75.0
				2	62.0
				3	64.0
				4	83.0
			930	1	83.0
				2	56.0
				3	63.0
				4	75.0
			1030	1	76.0
				2	78.0
				3	64.0
				4	88.0
			1130	1	82.0
				2	59.0
				3	61.0
				4	85.0
			1300	1	80.0
				2	64.0
				3	63.0
				4	102.0
			1400	1	61.0
				2	68.0
				3	53.0
				4	84.0
			1500	1	85.0
				2	65.0
				3	91.0
				4	41.0
		19	830	1	126.0
				2	118.0
				3	106.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	----	----	----	----	-----
83	10	19	830	4	137.0
			930	1	112.0
				2	98.0
				3	88.0
				4	124.0
			1030	1	104.0
				2	100.0
				3	87.0
				4	115.0
			1130	1	107.0
				2	98.0
				3	77.0
				4	103.0
			1300	1	95.0
				2	97.0
				3	73.0
				4	90.0
			1400	1	107.0
				2	84.0
				3	67.0
				4	92.0
			1500	1	119.0
				2	99.0
				3	65.0
				4	82.0
	27		830	1	120.0
				2	103.0
				3	101.0
				4	141.0
			930	1	102.0
				2	93.0
				3	88.0
				4	119.0
			1030	1	102.0
				2	91.0
				3	75.0
				4	100.0
			1130	1	89.0
				2	88.0
				3	72.0
				4	93.0
			1300	1	107.0
				2	73.0
				3	69.0
				4	94.0
			1400	1	103.0
				2	80.0
				3	61.0
				4	91.0
			1500	1	105.0
				2	91.0

YEAR	MONTH	DAY	HOUR	VIEW	VISUAL RANGE
----	-----	---	----	----	-----
83	10	27	1500	3	60.0
				4	84.0

MEAN DAILY VISUAL RANGE BY VIEW
1983

DATE	VIEW	MILE
04MAY83	1	82
04MAY83	2	69
04MAY83	3	57
04MAY83	4	67
12MAY83	1	94
12MAY83	2	69
12MAY83	3	72
12MAY83	4	103
24MAY83	1	87
24MAY83	2	78
24MAY83	3	66
24MAY83	4	74
28MAY83	1	74
28MAY83	2	68
28MAY83	3	57
28MAY83	4	81
01JUN83	1	44
01JUN83	2	45
01JUN83	3	36
01JUN83	4	49
05JUN83	1	93
05JUN83	2	67
05JUN83	3	50
05JUN83	4	53
09JUN83	1	72
09JUN83	2	68
09JUN83	3	59
09JUN83	4	71
13JUN83	1	97
13JUN83	2	79
13JUN83	3	71
13JUN83	4	73
21JUN83	1	85
21JUN83	2	72
21JUN83	3	59
21JUN83	4	80
25JUN83	1	47
25JUN83	2	54
25JUN83	3	50
25JUN83	4	54
01SEP83	1	87
01SEP83	2	89
01SEP83	3	74
01SEP83	4	109
09SEP83	1	77
09SEP83	2	63
09SEP83	3	55
09SEP83	4	78
17SEP83	1	79
17SEP83	2	68
17SEP83	3	58
17SEP83	4	85
21SEP83	1	95
21SEP83	2	84
21SEP83	3	72

Table 1.3.3-2 (cont)

MEAN DAILY VISUAL RANGE BY VIEW
1983

DATE	VIEW	MILE
21SEP83	4	96
29SEP83	1	117
29SEP83	2	101
29SEP83	3	86
29SEP83	4	101
03OCT83	1	7
03OCT83	2	29
03OCT83	3	39
03OCT83	4	48
11OCT83	1	107
11OCT83	2	93
11OCT83	3	72
11OCT83	4	80
15OCT83	1	77
15OCT83	2	64
15OCT83	3	65
15OCT83	4	79
19OCT83	1	110
19OCT83	2	99
19OCT83	3	80
19OCT83	4	106
27OCT83	1	104
27OCT83	2	88
27OCT83	3	75
27OCT83	4	103

TABLE 1.3.3-3
MEAN SEASONAL VISUAL RANGE BY VIEW

SEASON	YEAR	VIEW	MILE
SPRING	83	1	67
SPRING	83	2	69
SPRING	83	3	57
SPRING	83	4	56
FALL	83	1	52
FALL	83	2	66
FALL	83	3	64
FALL	83	4	59

1.3.4 Atmospheric Diffusion Studies

Atmospheric diffusion modeling studies were completed in the Fall of 1982 and reported in the January 1983 Environmental Monitoring Report. No new modeling studies were conducted during this reporting period.

1.3.5 Inversion Studies

No temperature inversion heights are being measured during the Interim Monitoring Period.

1.3.6 Air Quality Assurance

1.3.6.1 Quality Assurance Program

The quality assurance program and procedures have been documented in Air Monitoring Quality Assurance Manual and Standard Operating Procedures, Cathedral Bluffs Shale Oil Co., August 1981. This document was submitted in August 1981 to EPA, Region VIII for approval. Copies were also sent to the Oil Shale Project Office and the Colorado State Department of Health.

These quality assurance procedures define requirements for instrument selection, installation, calibration, maintenance and auditing in accordance with regulations of the Clean Air Act. These procedures are followed by on-site personnel regarding air monitoring equipment. Copies of the quality assurance manual are retained in each air quality trailer for easy reference; these include standard forms for recording calibrations, repairs and data problems.

1.3.6.2 Station "Up-Time" Summaries

For this operational period air quality station AB23 and the co-located 60-m meteorological tower (AA23) have been in continuous operation. Monthly summaries of data acquisition instrument efficiencies (or "up-time") have been included in each monthly air quality data report. These monthly efficiencies are summarized on Table 1.3.6-1 for this reporting period.

1.3.6.3 Air Quality Audit Summaries

Air quality audits have been conducted by either an independent consultant or by CB Environmental Services' Grand Junction Office personnel at Station AB23 since 1976. Audit results from December 1981 to present are reported in Table 1.3.6-2. Audit performance goals for the instruments are to achieve values of β within + 10% of unity where

$$C_2 = \beta C_1 + \alpha$$

C_2 = Concentration of gas obtained by audit service

C_1 = Concentration of gas obtained by station calibration

β = Constant = Linear slope of regression line

α = Constant = C_2 intercept of regression line

Thus a β of 1.0 and an α of 0.0 indicate perfect agreement between station and the audit.

In addition, in December 1981 a systems audit was conducted by EPA, Region VIII's independent contractor. Audit recommendations and actions taken by CB were reported in the previous data report.

TABLE 1.3.6-1

Instrument "Up-Time" - Sta. AB23, AA23 - 1983

Channel	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
N ₂ O _x	99	100	96	100	98	100	95	100	100	100	100	
N ₂ O	99	100	96	100	98	100	95	100	100	100	100	
N ₂ O ₂	99	100	96	100	98	100	95	100	100	100	100	
O ₃	64	66	100	100	98	100	95	100	37	86	100	
CO	99	100	100	100	98	100	95	100	100	100	100	
SO ₂	99	100	100	100	98	100	95	100	100	100	100	
H ₂ S	91	100	100	100	98	100	95	100	100	100	100	
TSP	100	100	100	100	100	86	100	100	100	100	100	
Wind Speed												
10m	99	100	98	99	96	100	95	100	100	100	100	
30m	99	100	98	99	96	100	95	100	100	100	100	
60m	99	100	99	99	98	100	95	100	100	100	100	
Wind Direction												
10m	99	100	98	99	96	100	95	100	100	100	99	
30m	99	100	98	99	96	100	95	100	100	100	100	
60m	99	100	99	99	98	100	95	100	100	100	100	
Sigma Wind Dir.												
10m	99	100	98	99	96	100	95	100	100	100	99	
30m	99	100	98	99	96	100	95	100	100	100	100	
60m	99	100	99	99	98	100	95	100	100	100	100	
Temperature												
10m	99	100	100	100	98	100	95	100	100	100	100	
30m	99	100	100	100	98	100	95	100	100	100	100	
60m	99	100	100	100	98	100	95	100	100	100	100	
Delta Temperature												
Relative Humidity												
Solar Radiation	98	88	100	100	99	100	95	100	100	100	100	
Barometric Pressure	68	100	8	75	78	98	95	100	100	100	100	
Precipitation	99	100	100	100	98	100	95	100	100	100	100	
	77	0	0	0	24	100	95	100	100	100	100	

TABLE 1.3.6-2 AIR QUALITY AUDIT RESULTS AT C-b TRACT

STATION	INSTRUMENT	a. Value									
		12/28/81	4/1/82	6/15/82	9/28/82	12/12/82	3/31/83	6/28/83	8/29/83		
AB23	N0	1.040	0.974	1.002	1.026	0.995	0.962	0.973	1.040		
	N0 _x	1.031	0.980	1.041	1.043	0.995	0.980	0.930	1.057		
	N0 ₂	(2)	1.023	0.968	0.996	0.987	0.933	0.969	1.028		
	S0 ₂	0.974	0.998	0.931	0.972	0.893	0.975	0.997	0.966		
	H ₂ S	Down	1.033	1.007	(5)	(5)	(5)	(5)	(5)		
AB20	C0	0.982	0.974	0.977	1.005	1.022	1.023	0.962	1.057		
	O ₃	0.993	0.999	0.976	0.961	0.970	0.981	1.023	0.999		
	N0	Down	(3)	(3)	(3)	(3)	(3)	(3)	(3)		
	N0 _x	Down									
	N0 ₂	Down									
AB26	S0 ₂	0.942									
	C0	1.005									
	O ₃	1.019									
	N0	0.962	0.964	1.017	(3)	(3)	(3)	(3)	(3)		
	N0 _x	0.957	0.965	1.042							
Audit Agency (4)	N0 ₂	(2)	0.979	1.020							
	S0 ₂	0.989	1.082	0.993							
	H ₂ S	0.971	1.017	1.039							
	C0	1.049	0.975	1.042							
	O ₃	1.022	0.878	0.917	APCD	NAR	APCD	EPA	APCD		

(2) Halffunction of gas phase titration channel of the audit device.

(3) Station discontinued.

(4) NAR = North American Rockwell, EPA Contractor.

APCD = Colorado Air Pollution Control Division.

EPA = Environmental Protection Agency, Region VIII.

CB E/S = Cathedral Bluffs Environmental Services Department, Grand Junction.

(5) Not Audited.

1.3.6.4 Air Quality Precision Checks

The procedures followed for precision calculations were set forth in the CB Quality Assurance Manual and are identical to those contained in Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD), EPA-450/4-80-012, November 1980. The precision probability limits and percentage differences for both gases (automated analyzers) and particulates (manual hi-vol analyzer) are presented in Table 1.3.6-3 for the April-June 1983, and July-September 1983 quarters.

TABLE 1.3.6-3

Single Analyzer Precision - C-b Tract

Station AB23		Time Period - April - June 1983				
Gas	Instrument	No. of Paired Samples	Mean Differences \bar{d}_j (%)	Standard Deviation S_j (%)	Upper 95% Limit (%)	Lower 95% Limit (%) Automated (A) or Manual (M)
SO ₂	Teco 43 P.F.	6	-1.81	4.80	0.16	-3.77 A
NO ₂	ML8840E C	6	-0.19	4.87	1.77	-2.15 A
O ₃	Dasibi 1003RS UV	6	-2.23	2.07	-0.27	-4.19 A
CO	Beckman 866 IR	6	-1.37	3.17	0.59	-3.33 A
H ₂ S	Teco 45 PF	6	0.66	3.76	2.62	-1.30 A
TSP	Hi-vol	5	3.64	7.65	18.63	-11.35 M

P.F. = Pulsed Fluorescence

C = Chemiluminescence

IR = Infrared

UV = Ultraviolet Absorption

TABLE 1.3.6-3

Single Analyzer Precision - C-b Tract

Station AB23		Time Period - July - September 1983				
Gas	Instrument	No. of Paired Samples	Mean Differences \bar{d}_j (%)	Standard Deviation s_j (%)	Upper 95% Limit (%)	Lower 95% Limit (%) or Automated (A) or Manual (M)
SO ₂	Teco 43 P.F.	5	-4.21	8.31	-2.25	-6.17 A
NO ₂	ML8840E C	5	0.29	1.93	4.07	-3.49 A
O ₃	Dasibi 1003RS UV	5	-1.91	2.50	0.05	-3.87 A
CO	Beckman 866 IR	5	-3.97	6.82	-2.01	-5.93 A
H ₂ S	Teco 45 PF	5	0.75	6.33	1.21	2.71 A
TSP	Hi-vol	9	-2.33	4.29	6.08	-10.74 M

P.F. = Pulsed Fluorescence
 C = Chemiluminescence
 IR = Infrared
 UV = Ultraviolet Absorption





1.3.7 Data Reports

This section includes monthly data reports for June through November 1983, as required by the Interim Monitoring Plan.

SEPTEMBER

JUNE

JULY

AUGUST

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NITRIC OXIDE
(UG/M3)

CB-TRACT
TRAILER AR23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

MOON (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	0	1	0	0	0	0	0	1	1	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	1
2	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1
5	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	1
6	0	0	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	2	0	2
7	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1
8	0	0	0	0	0	0	0	1	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	1	1	1	1	1	1	0	1	1	1
9	1	0	1	1	1	1	1	0	1	1	0	1	1	1	0	1	0	0	0	1	1	0	0	1	1	1
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	1	1	1	0	0	1	1	0	0	0	1	1	1	0	0	1	1	1	0	1	0	1	0	1	1	1
12	1	1	1	0	1	1	1	0	0	1	1	0	1	0	0	1	0	0	0	1	0	1	0	2	1	2
13	1	1	1	0	1	0	1	0	0	1	1	0	1	1	1	1	0	0	1	0	1	0	1	1	1	1
14	0	1	1	0	1	0	1	1	0	1	1	0	0	0	1	0	1	0	0	1	0	1	0	1	1	1
15	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	1
16	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	1	1	1
17	0	0	1	0	0	1	0	0	1	1	0	1	0	0	1	0	1	0	1	0	0	0	0	1	1	1
18	0	1	1	0	0	1	0	1	1	0	1	0	0	1	0	0	1	1	0	1	1	0	0	1	1	1
19	0	1	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1	0	1	0	0	1	1	1
20	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	1	0	0	1	1	1
21	0	1	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0	1	0	0	1	1	1
22	0	0	0	1	0	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	0	1	1	0	1
23	0	0	0	0	1	0	0	1	0	1	1	0	0	0	1	1	0	0	0	1	0	0	0	2	0	2
24	0	1	1	1	0	1	0	0	1	1	1	0	1	0	1	1	1	0	0	0	1	1	1	1	1	1
25	0	0	1	1	1	1	0	1	1	0	0	1	0	1	1	0	1	0	1	0	1	0	0	2	1	2
26	0	0	1	1	0	1	1	1	1	0	0	1	0	1	1	0	1	0	0	1	1	1	0	2	1	2
27	1	0	1	1	0	1	1	1	1	0	0	1	0	1	2	0	1	0	1	1	1	1	1	2	1	2
28	1	1	1	0	1	1	2	1	0	1	1	1	0	1	1	(CA)	(CA)	(CA)	(CA)	1	1	1	1	1	1	1
29	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	0	0	0	1	0	0	0	1	1	1	1
30	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	1	1	1	1	1
AV	0	1	1	1	1	0	0	1	1	1	1	0	1	0	1	2	1	0	1	1	1	0	0	1	1	1
PK	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	2	2

OXIDES OF NITROGEN
(UG/M3)

CB-TRACT
TRAILER AB23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	HOUR (LOCAL STANDARD TIME)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0	0	0	0	2	0	2	0	2	2	2	0	0	2	0	0	0	2	0	0	0	0	0	1
2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	0	0	0
6	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	(CA)	0	(CA)	(CA)	(CA)	(CA)	(CA)	0	0	0	0	0	0	0	0	0
9	2	2	2	0	0	0	2	2	2	2	0	0	2	0	0	0	2	2	0	0	0	2	0	0
10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2	0	0	2	0	0	0
24	2	0	0	0	0	2	0	2	0	2	0	0	2	2	2	0	2	4	2	2	2	2	0	1
25	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1
26	2	0	0	0	0	0	0	0	2	0	0	0	0	(CA)	0	0	0	0	0	0	0	0	0	2
27	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	(CA)	2	0	0	0	0
29	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14K	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	2	2	2	2	4

NITROGEN DIOXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
JUNE 19H3
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE PEAK
1	0	0	0	0	2	2	2	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	2	0	0	0	0	0	0	2
3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
6	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
13	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	2
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
24	0	0	0	0	0	2	0	2	0	2	0	0	0	0	0	2	0	2	0	2	2	0	0	0	2
25	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	0	2	0	2	2	0	2
26	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
AV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
PK	2	2	0	0	2	2	2	2	0	2	2	2	0	2	2	2	2	2	2	2	2	2	2	0	2

ZONE
(UG/H3)

CB-TRACT
TRAILER 4823
JUNE 1983
CATHARAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK	
1	45	33	39	35	51	49	47	43	43	49	65	106	106	104	100	98	98	80	88	86	69	63	65	59	68	106	
2	63	57	51	51	51	57	73	84	98	100	106	120	118	120	131	135	122	118	120	104	98	92	88	88	93	135	
3	74	80	76	73	74	73	76	88	104	118	120	116	112	114	110	110	108	106	108	98	84	84	86	84	86	120	
4	90	84	76	73	69	65	63	67	80	86	94	92	90	90	90	102	118	118	110	106	100	86	84	80	88	118	
5	90	90	80	80	82	63	63	67	63	65	73	76	80	80	80	80	82	82	82	78	76	73	73	67	76	90	
6	61	61	63	63	65	59	55	57	74	78	80	82	82	82	80	80	78	73	71	65	47	39	39	45	66	82	
7	39	45	43	41	37	43	37	55	65	74	74	76	78	74	73	74	74	74	71	69	65	61	61	59	61	78	
8	55	57	59	59	55	35	37	43	61	71	71	65	71	78	84	84	92	84	82	78	76	76	73	67	92	92	
9	71	69	69	63	65	61	65	78	88	92	86	76	84	86	84	86	100	90	86	84	84	74	71	69	77	100	
10	67	67	67	63	67	65	49	63	86	88	90	48	90	88	84	108	108	104	94	88	82	96	100	90	87	108	
11	65	69	69	65	63	65	63	80	80	88	92	96	98	102	108	108	108	84	80	80	53	55	49	49	70	96	
12	84	80	82	74	86	94	92	98	104	98	98	88	82	84	86	84	80	80	80	74	53	55	49	49	70	96	
13	59	96	84	65	63	55	67	67	69	71	76	78	74	80	78	84	80	80	80	74	53	55	49	49	70	96	
14	55	53	59	59	55	53	49	61	71	80	82	84	120	88	84	86	90	90	86	65	67	73	82	76	74	120	
15	74	78	76	73	71	69	73	84	94	100	98	92	86	84	82	80	86	84	82	76	67	67	80	80	75	98	
16	61	67	67	63	61	63	53	45	59	80	86	88	92	92	98	92	86	84	82	76	67	67	80	80	85	104	
17	82	78	74	78	82	86	67	82	102	104	100	96	86	84	88	84	88	86	84	80	80	80	80	76	76	83	100
18	71	71	73	74	80	74	80	92	100	98	98	98	96	92	84	84	80	108	110	98	88	92	96	96	87	110	
19	69	78	73	73	73	69	63	67	71	84	90	98	96	92	96	104	86	80	78	73	73	74	73	69	86	110	
20	86	86	80	88	88	78	80	90	96	102	110	100	94	96	90	88	86	80	78	76	65	61	63	65	67	80	
21	65	69	67	63	63	61	61	65	65	65	65	67	71	74	74	76	73	71	71	63	53	59	65	67	66	76	
22	61	67	69	67	63	61	57	57	63	71	78	78	78	80	80	80	88	84	67	67	51	69	73	69	80	88	
23	63	63	69	69	63	61	57	57	63	71	78	78	80	84	82	80	76	102	110	102	80	82	74	59	74	110	
24	53	59	49	53	53	53	65	76	78	78	80	86	84	84	82	80	88	84	67	67	51	69	73	69	70	88	
25	57	59	71	76	55	55	47	53	67	80	86	84	82	74	84	76	102	110	102	100	82	80	71	59	74	92	
26	53	59	59	47	55	73	55	57	80	90	92	92	88	92	82	82	76	90	84	82	80	74	59	74	92	92	
27	55	59	59	65	55	39	63	67	65	74	80	78	76	74	(CA)	71	78	80	74	63	67	65	59	51	66	80	
28	49	47	41	41	27	35	33	45	61	69	76	88	92	(CA)	74	74	59	67	57	49	55	63	73	73	59	92	
29	71	76	76	76	67	59	57	49	69	86	98	98	92	98	102	106	106	102	94	82	80	92	96	98	85	106	
30	82	84	82	86	82	84	84	86	94	100	104	110	122	122	110	102	100	88	78	65	65	71	73	73	89	122	
AV	66	68	67	65	65	62	61	67	77	84	87	89	90	89	89	88	89	88	84	77	72	72	72	70	77	135	
PK	90	96	84	88	88	94	92	98	104	118	120	120	122	122	131	135	122	118	120	106	100	96	100	98			

CARBON MONOXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK	
1	70	60	60	60	60	70	70	60	70	70	70	70	60	60	60	60	60	70	70	70	70	70	70	70	64	70	
2	70	70	70	70	70	70	70	70	60	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	69	70	
3	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	69	70	
4	70	70	70	70	60	70	70	70	70	70	70	70	70	70	70	70	60	70	70	70	70	70	70	70	68	70	
5	70	70	70	70	60	70	70	70	70	70	70	70	70	70	70	70	60	70	70	70	70	70	70	70	68	70	
6	70	60	70	70	70	60	70	70	60	70	70	60	60	60	70	70	70	70	70	70	70	70	70	70	65	70	
7	70	70	70	70	70	70	70	70	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	30	30	50	50	50	60	60	60	61	70	
8	60	60	60	60	60	60	70	70	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	30	30	50	50	50	50	50	50	52	70	
9	50	50	50	50	50	50	50	50	50	50	30	30	50	50	60	60	60	60	60	60	60	60	60	60	50	60	
10	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
11	60	70	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
12	70	70	70	70	70	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	70	
13	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	70	
14	60	60	60	60	60	60	60	60	60	60	60	60	50	60	60	60	60	60	60	60	60	60	60	60	60	57	60
15	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	57	60
16	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	57	60
17	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	57	60
18	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	50	50	50	50	60	60	60	60	50	55	60
19	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	57	60
20	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	55	60
21	50	50	50	50	50	60	60	60	60	60	60	60	60	60	50	50	50	50	50	50	60	60	60	60	50	50	60
22	50	50	50	50	50	60	60	60	60	60	60	60	60	60	50	50	50	50	50	60	60	60	60	60	50	49	60
23	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	70	70	70	70	70	70	70	70	70	62	70	70
24	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	80	70	80	80	80	80	80	80	80	73	80
25	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
26	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
27	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
28	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
29	50	50	50	50	50	50	60	50	(CA)	20	20	20	20	20	20	20	50	30	30	50	50	50	50	50	50	38	60
30	30	30	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	45	50	
31	30	30	30	30	30	50	50	30	20	20	20	20	20	20	20	20	20	10	10	10	10	10	10	10	24	50	
AV	61	61	60	60	59	61	62	61	60	59	59	59	58	58	57	59	57	57	58	60	59	59	59	59	59	59	59
PK	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80

SULFUR DIOXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	HOUR (LOCAL STANDARD TIME)																								AVE PEAK
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	3	3	3	0	0	0	3	3	(CA)	(CA)	(CA)	(CA)	3	3	3	3	0	3	3	3	0	3	3	0	1
9	0	3	0	3	3	3	3	0	3	3	3	0	0	0	3	3	0	0	0	0	0	3	3	0	1
10	0	0	0	0	3	5	3	0	3	3	3	0	3	5	3	3	3	3	3	3	3	0	3	2	5
11	3	0	0	3	0	0	3	0	3	3	3	0	3	3	3	0	0	0	0	0	0	0	0	0	3
12	0	0	0	0	0	0	3	0	3	3	3	0	3	3	3	0	0	0	0	0	0	0	0	0	3
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
14	0	3	0	0	0	0	0	0	0	3	3	3	(MT)	3	(MT)	8	8	3	3	0	3	0	0	3	2
15	3	0	0	0	0	0	0	3	0	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3
16	3	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3
17	0	0	0	0	0	0	0	3	0	3	3	0	0	0	0	0	3	3	3	0	0	0	0	0	1
18	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	3	0	3	0	3	0	0	0	0	1
19	0	0	0	3	3	3	3	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	3
20	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	3	3	0	0	0	0	3	3	3	3	3	3	3	3	0	3	3	0	3	0	3	3	1
26	0	0	3	3	0	3	0	3	0	0	3	3	3	3	3	3	0	0	0	0	3	0	0	0	1
27	0	3	3	3	0	0	0	0	0	0	0	0	0	0	5	0	0	3	3	3	3	0	0	0	1
28	0	3	0	0	0	3	0	3	5	(CA)	(CA)	(CA)	5	5	5	5	5	5	5	5	5	5	5	3	4
29	5	5	8	5	5	3	5	3	3	3	3	3	3	3	3	3	3	3	3	0	3	5	5	3	8
30	3	3	3	3	5	0	3	3	0	3	3	3	5	3	3	0	0	3	3	3	3	5	0	3	2
AV	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PK	5	5	8	5	5	5	5	5	5	3	3	3	5	5	5	8	8	5	8	5	5	5	5	3	8

HYDROGEN SULFIDE
(UG/M3)

CB-TRACT
TRAILER #B23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	HOUR (LOCAL STANDARD TIME)																								AVE PEAK
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	0	0	0	0	0	0	0	1	1	1	0	1	1 (CA)	1	1	1	1	1	0	1	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	4	6	3	1	1	1
3	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
7	0	0	0	0	0	0	0	1	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	6	7	7	6	6	6	6	7	7	7	7	8	7	8	8	7	7	7	6	6	6	6	6	6	6
11	7	6	7	6	7	7	6	7	7	7	7	7	8	8	8	7	7	7	7	7	7	7	7	7	7
12	7	7	8	7	7	7	7	7	7	6	4	6	6	4	6	6	6	6	6	4	6	4	4	4	6
13	7	7	7	7	8	7	7	4	4	4	6	4	4	4	4	4	4	4	4	4	4	4	4	4	7
14	3	4	3	4	3	4	3	4	4	3	3	4	4	4	4	4	4	4	4	4	4	4	3	3	4
15	1	3	3	3	4	4	4	3	4	3	3	4	4	4	3	3	4	4	3	3	3	3	3	3	4
16	1	3	3	3	1	3	3	1	1	3	3	4	4	3	3	3	4	3	3	3	3	3	3	3	4
17	0	1	1	1	1	0	1	1	1	1	3	4	4	4	3	3	4	3	3	3	3	3	3	3	4
18	1	1	1	1	1	1	0	0	1	1	3	3	3	3	3	3	1	3	3	3	3	3	1	1	2
19	1	1	1	1	1	1	1	1	1	3	3	4	6	6	6	4	6	6	4	6	4	4	4	4	3
20	0	0	1	1	1	1	1	1	3	3	4	4	6	6	6	4	4	4	4	4	4	3	3	3	6
21	1	3	4	3	3	3	3	3	4	3	3	4	4	4	4	4	4	4	4	4	3	3	3	3	4
22	1	3	3	3	3	3	3	3	4	3	3	4	4	4	4	4	4	4	4	4	3	3	3	3	4
23	1	1	0	1	1	1	1	1	1	1	1	3	4	4	4	3	3	3	3	3	1	3	1	1	3
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
26	1	1	1	1	1	1	1	1	1	1	3	3	4	4	4	4	4	4	4	3	3	3	3	3	4
27	3	1	0	3	3	3	3	3	3	3	3	1	1 (CA)	3	3	3	3	3	3	3	1	1	1	1	2
28	1	0	0	0	0	0	1	1	1	1	4	3	3	3	3	3	3	3	3	1	1	0	0	1	4
29	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	0	1	1	1
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AV	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2
PK	7	7	8	7	8	7	7	7	8	7	7	8	8	8	8	7	7	7	8	7	8	7	7	7	8

PARTICULATE DATA
UG/M3

C-R TRACT
JUNE 1983

OCCIDENTAL OIL SHALE, INC.

DAY	AH20	AB23	STATION AB26	AD42	AD56
3	()	(IM)	()	()	()
7	()	9.9	()	()	()
11	()	6.7	()	()	()
15	()	12.3	()	()	()
19	()	24.2	()	()	()
23	()	27.2	()	()	()
27	()	13.4	()	()	()
AVE	()	15.6	()	()	()
GM	()	13.9	()	()	()
PEAK	()	27.2	()	()	()

WIND SPEED @ 10M
METERS/SEC

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	1	1	1	1	1	1	2	1	1	1	2	7	8	8	5	5	4	5	4	2	1	2	2	2	3	8
2	1	0	2	1	1	1	3	7	5	6	5	6	5	3	6	1	0	5	4	3	3	1	0	1	3	7
3	1	1	1	0	1	1	1	0	1	1	2	4	4	3	1	2	1	1	3	2	3	1	0	0	0	4
4	1	0	2	0	0	0	0	2	3	3	4	4	4	3	3	4	4	4	2	2	1	1	1	0	1	5
5	1	1	0	0	0	0	0	1	1	1	1	1	2	3	4	5	0	5	2	1	1	1	1	1	0	4
6	1	0	0	0	0	0	0	0	1	1	1	1	1	2	3	2	2	1	2	1	1	1	1	1	1	5
7	1	0	0	1	1	1	1	1	1	1	2	3	1	4	4	1	2	1	4	2	3	2	2	2	1	5
8	1	0	0	0	1	1	1	1	1	1	1	3	1	4	2	1	2	4	3	3	4	3	2	2	2	5
9	1	2	2	2	1	1	2	0	1	1	0	3	2	4	2	1	5	2	3	5	3	1	0	1	2	5
10	2	2	1	1	1	1	2	1	0	1	5	6	7	8	7	8	8	6	4	4	2	6	0	1	2	8
11	2	1	1	1	2	3	1	1	3	1	3	3	2	3	1	0	2	3	1	1	2	0	1	1	1	4
12	2	1	1	3	2	3	1	1	4	1	2	3	5	2	6	4	2	3	2	1	1	1	1	3	3	4
13	2	1	1	1	2	1	0	1	3	2	2	3	3	1	1	4	1	3	1	1	3	0	1	1	1	6
14	1	1	2	0	0	2	2	0	4	4	3	3	3	1	4	5	4	2	2	2	3	0	1	0	2	3
15	1	1	2	0	2	2	2	0	1	1	3	5	5	2	5	4	4	4	2	1	5	2	4	2	2	5
16	1	1	2	0	0	0	1	1	1	1	7	7	6	7	5	6	6	6	5	4	3	1	1	4	4	7
17	1	3	3	2	1	1	2	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
18	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
19	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
20	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
21	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
22	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
23	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
24	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
25	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
26	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
27	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
28	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
29	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
30	1	3	3	3	2	1	0	1	7	5	5	6	6	7	7	7	7	7	7	4	5	5	5	2	4	7
AV	1	2	2	2	2	1	1	2	3	3	3	4	4	4	4	4	4	4	3	3	2	2	2	2	3	8
PK	4	4	4	4	4	4	5	7	7	7	7	8	8	8	7	8	8	7	5	5	5	6	5	4	4	

WIND SPEED @ 30M
METERS/SEC

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	0	3	1	0	1	1	2	1	2	1	2	9	11	12	8	7	5	7	5	4	1	3	3	3	4	12
2	3	1	0	1	1	2	4	1	9	2	8	8	7	4	8	2	0	7	5	4	4	2	1	1	4	9
3	0	0	1	1	1	1	0	3	1	4	3	5	4	5	4	3	8	5	1	3	5	0	1	1	4	5
4	5	0	1	1	0	1	0	2	2	4	3	6	6	4	5	6	4	5	5	3	2	1	2	1	3	8
5	6	1	0	1	1	1	1	1	2	2	1	2	3	4	4	2	1	7	2	2	2	1	4	0	2	5
6	7	0	0	1	1	1	0	1	1	1	3	1	2	3	5	2	7	2	4	6	3	3	1	0	2	7
7	1	1	1	3	3	1	1	0	1	1	3	2	2	3	2	1	4	6	5	7	5	3	3	3	3	6
8	1	2	2	2	1	1	0	1	1	1	0	4	3	5	6	4	3	3	4	4	6	3	1	1	3	12
9	1	2	2	2	1	1	2	1	8	9	7	8	9	12	10	10	11	8	5	5	8	9	4	3	6	6
10	2	2	2	2	4	1	2	3	6	2	4	4	3	3	1	0	2	3	5	5	3	3	1	1	3	12
11	3	4	4	2	2	1	0	2	4	3	2	4	7	4	9	5	1	4	2	2	2	0	3	4	3	9
12	3	4	4	2	2	1	0	2	3	3	2	2	7	5	1	5	1	3	3	3	2	0	0	1	3	6
13	3	4	4	2	2	1	0	2	3	3	2	2	7	5	1	5	6	4	2	4	5	0	0	1	2	5
14	1	1	1	3	3	3	2	1	1	4	2	3	4	2	5	5	6	3	2	3	5	0	4	4	3	6
15	0	1	1	3	3	3	2	1	1	1	2	2	8	6	8	7	7	3	2	4	2	4	4	2	4	8
16	1	1	1	2	1	0	1	1	1	1	7	7	8	3	4	5	6	3	6	6	8	9	7	7	3	9
17	1	1	1	2	1	0	1	1	9	10	7	8	9	9	9	9	9	9	4	6	8	8	8	8	7	10
18	4	4	4	3	2	0	1	2	1	7	7	8	9	9	9	9	9	9	4	5	5	3	2	5	5	9
19	4	4	4	3	2	0	1	2	1	7	8	9	9	9	9	9	9	9	4	5	5	3	2	5	5	9
20	6	1	7	7	7	7	6	7	8	7	9	9	9	9	9	9	9	7	4	4	4	2	1	1	7	9
21	6	3	6	7	7	5	2	2	8	6	5	6	6	6	6	6	6	6	5	3	4	2	3	3	6	9
22	3	2	2	2	3	2	1	2	2	4	8	2	3	4	4	4	4	6	1	1	3	5	2	1	1	9
23	3	2	2	2	3	2	1	2	2	4	5	2	3	4	4	4	4	6	1	1	5	5	3	3	1	8
24	5	2	2	2	0	1	1	1	2	4	5	2	3	4	4	4	4	6	1	3	4	2	1	1	3	8
25	5	4	1	1	1	1	1	1	2	4	5	2	3	4	4	4	4	6	1	3	4	2	1	1	3	8
26	1	1	1	1	1	1	1	1	2	4	5	2	3	4	4	4	4	6	1	3	4	2	1	1	3	8
27	3	3	0	2	3	1	2	2	1	2	3	7	8	8	8	4	4	4	1	2	3	3	2	1	3	8
28	1	1	1	1	1	1	1	1	2	2	3	7	8	8	7	7	4	4	1	2	3	3	2	1	3	8
29	6	6	6	6	7	8	5	6	6	9	6	6	6	8	7	6	8	5	4	4	6	6	4	4	4	9
30	6	6	6	6	7	8	5	6	6	9	6	6	6	8	7	6	8	5	4	4	6	6	4	4	4	9
AV	2	2	2	2	2	2	2	3	3	4	4	5	5	5	6	5	5	5	4	4	4	3	3	3	4	12
PK	6	7	7	8	7	8	7	9	9	10	9	9	11	12	10	10	11	9	8	7	8	9	8	8	4	12

WIND SPEED @ 60M
METERS/SEC

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK	
1	0	2	4	3	1	2	2	1	2	1	3	10	12	13	8	8	5	8	5	4	1	3	2	3	3	4	13
2	3	1	1	2	1	1	0	10	8	9	4	6	4	4	10	2	0	8	8	6	5	3	2	1	1	5	10
3	0	0	1	0	1	1	3	3	3	2	3	7	6	4	4	3	2	6	1	4	4	4	0	0	1	3	6
4	0	2	2	1	2	2	1	1	2	2	2	2	3	4	4	7	1	8	4	3	3	5	4	4	3	4	8
5	0	0	1	1	0	1	1	3	2	2	2	2	2	3	6	2	3	7	5	3	4	4	4	4	3	4	5
6	0	0	2	2	2	(CM)	2	0	4	5	1	5	2	6	6	2	3	7	5	3	4	4	4	4	3	4	8
7	1	3	2	2	2	2	2	(CM)	1	1	1	4	3	5	7	4	3	4	5	8	7	3	3	3	3	4	7
8	3	2	1	1	2	2	3	8	9	10	8	9	10	13	11	11	12	9	6	6	9	9	5	4	4	7	13
9	3	3	3	2	3	5	4	5	7	3	4	4	3	3	1	5	3	4	2	2	4	0	2	2	2	3	6
10	5	5	1	1	1	2	2	2	1	2	2	2	2	5	1	1	2	4	4	6	7	2	1	2	2	3	7
11	1	1	2	2	1	1	2	2	2	4	1	7	3	3	8	6	7	3	3	3	3	5	4	4	4	4	6
12	1	2	2	2	3	3	5	9	11	12	10	10	10	10	10	10	10	10	9	8	10	11	11	10	10	4	11
13	1	5	4	1	2	2	1	1	8	8	8	8	9	10	10	10	10	10	8	6	5	7	3	6	8	10	10
14	1	9	3	3	3	2	1	2	8	8	9	10	9	10	10	10	10	10	6	4	4	2	3	4	4	10	10
15	7	5	7	7	4	6	8	8	7	5	8	6	5	7	6	4	5	5	4	3	4	2	3	4	6	8	8
16	3	3	3	4	4	4	3	2	3	4	5	4	4	4	8	5	5	4	4	4	4	2	3	2	2	4	11
17	5	4	2	2	4	2	3	2	2	4	5	3	3	3	2	5	3	4	2	2	4	0	2	2	2	3	6
18	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	6	4	6	1	1	1	1	10
19	5	8	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	3	3	3	3	3	3	4	10
20	4	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	2	2	2	2	2	5	8
21	1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	1	1	1	1	2	5
22	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	2	2	4	6
23	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11
24	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
AV	3	3	3	3	3	3	2	3	4	5	6	6	6	6	6	5	6	6	5	5	5	4	4	3	3	4	13
PK	9	9	9	10	10	9	8	10	11	10	10	12	13	13	11	11	12	10	9	8	10	11	11	10	10		

WIND DIRECTION * 10M
DEGREES

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	PREV
1	233	238	251	254	176	149	93	17	325	344	302	223	242	229	225	201	263	24	44	31	255	245	227	233	250
2	233	141	202	121	209	135	170	169	207	242	231	200	281	283	301	132	56	249	233	196	158	126	148	182	195
3	103	133	236	103	193	215	23	8	3	320	317	168	317	317	358	71	120	8	336	215	206	214	253	307	275
4	217	125	185	220	7	208	(CM)	320	315	316	349	306	327	345	310	329	306	301	339	30	152	190	216	270	296
5	231	141	223	246	90	256	279	307	319	343	336	331	352	342	349	350	351	341	358	47	112	140	307	330	269
6	204	217	169	261	82	207	23	339	315	338	323	325	323	336	336	359	309	226	178	103	157	205	159	197	287
7	135	235	210	219	(CM)	210	308	261	315	327	305	287	327	309	313	307	340	358	355	47	131	143	143	197	287
8	213	214	171	212	204	210	(CM)	312	323	323	245	344	12	339	66	4	313	274	164	151	142	137	125	115	226
9	105	118	115	104	97	79	81	24	205	209	301	67	90	212	102	117	217	217	196	181	191	90	115	152	126
10	123	148	222	114	150	163	45	107	128	180	128	243	209	209	229	233	200	227	212	198	198	191	339	90	178
11	89	82	82	89	91	82	82	192	195	205	204	207	195	194	207	207	215	220	262	253	304	313	339	70	183
12	124	202	240	150	231	168	189	207	175	158	149	310	313	302	250	122	105	159	143	82	139	53	114	164	165
13	240	212	60	118	185	241	230	315	341	4	4	323	328	341	294	262	305	307	313	344	199	199	65	119	299
14	163	231	19	194	234	199	45	19	22	11	5	350	347	259	283	304	344	284	226	202	204	0	(CM)	135	300
15	87	102	104	111	111	114	86	180	214	217	215	210	206	198	208	211	212	230	284	318	194	161	167	174	179
16	191	137	127	124	106	109	100	0	125	211	220	225	253	248	246	235	245	255	263	270	294	268	251	229	220
17	205	224	229	167	264	135	109	53	81	352	34	13	289	300	233	284	289	271	209	189	186	194	184	176	221
18	139	66	80	82	144	55	194	208	201	211	213	205	212	207	215	213	219	223	216	201	196	191	193	204	191
19	287	249	238	216	208	102	90	67	349	204	212	209	210	207	205	229	237	207	212	251	246	153	217	217	217
20	215	219	228	142	158	292	71	193	193	201	217	208	210	207	212	208	205	204	199	181	172	168	158	156	194
21	161	171	166	155	168	163	141	167	174	201	182	186	198	199	212	202	205	208	208	202	205	225	218	223	189
22	228	214	199	197	191	190	183	189	194	191	197	180	210	217	221	198	225	231	246	221	209	176	150	158	201
23	197	150	146	156	161	156	106	87	151	195	203	196	192	229	232	201	108	115	135	205	142	149	148	52	161
24	129	176	122	110	111	104	90	225	220	247	210	231	258	314	88	8	317	336	73	90	151	153	196	136	145
25	141	179	180	168	45	94	86	302	299	303	309	328	338	316	316	316	295	155	218	50	145	173	191	135	239
26	228	175	(CM)	205	204	53	180	75	23	323	323	326	336	3	33	165	208	312	255	37	74	149	117	236	274
27	209	216	221	256	180	219	293	215	5	1	601	48	45	141	147	131	89	133	146	159	133	125	90	112	142
28	124	122	175	223	95	159	103	86	55	385	309	301	297	290	305	308	194	217	81	212	233	261	215	212	217
29	159	201	349	261	196	145	201	83	77	221	212	212	214	230	238	229	235	223	199	189	193	192	199	193	206
30	201	193	196	199	195	188	191	192	197	202	224	204	205	214	222	210	226	220	215	197	198	194	188	200	203
PV	181	176	183	177	161	160	112	134	259	260	259	256	267	259	251	236	252	240	221	188	181	182	170	172	216

WIND DIRECTION @ 30M
DEGREES

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

WIND DIRECTION @ 30M
DEGREES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	PREV
1	284	264	259	268	180	152	94	20	323	345	293	222	240	227	223	199	262	23	43	31	297	259	240	242	265
2	104	139	167	201	256	126	173	166	205	240	230	199	273	281	201	132	60	248	232	198	159	135	145	173	196
3	245	168	275	140	138	265	341	7	354	318	315	164	179	311	350	171	118	9	329	218	202	204	237	8	303
4	229	109	101	229	318	206	243	318	312	314	345	304	329	349	339	346	348	347	338	338	356	36	74	109	339
5	263	210	243	268	241	272	289	310	319	339	334	329	349	339	346	348	347	338	338	356	36	74	109	339	323
6	240	227	204	287	83	121	85	330	314	333	320	327	310	321	332	358	305	226	178	113	148	205	114	236	281
7	117	(CM)	243	238	10	120	305	256	309	323	302	287	324	310	311	307	336	359	352	43	114	127	123	147	321
8	199	280	(CM)	194	175	192	101	309	331	73	241	340	3	336	65	0	310	270	164	148	140	138	129	109	168
9	116	108	113	112	108	99	84	16	204	208	307	66	88	215	98	118	270	220	196	181	186	96	115	99	129
10	119	153	218	98	131	146	11	111	132	178	135	242	209	207	218	229	201	226	211	194	193	190	192	141	178
11	148	107	103	108	108	101	101	191	192	205	203	204	195	191	206	206	213	218	260	250	303	312	336	65	184
12	120	202	240	150	228	170	191	209	176	157	148	312	312	298	253	142	104	158	147	94	136	149	97	156	168
13	239	209	64	107	163	241	233	316	339	4	4	321	327	337	292	260	304	305	313	338	189	176	109	120	296
14	143	249	34	141	(CM)	197	(CM)	12	29	14	6	346	343	258	278	294	337	281	222	197	194	194	11	202	288
15	163	110	114	114	113	127	101	185	212	215	216	211	206	199	207	208	210	230	280	318	246	140	149	152	182
16	201	133	136	133	112	111	110	36	116	209	219	224	250	246	244	234	244	253	260	274	311	284	307	259	232
17	237	249	250	215	307	81	118	59	80	354	31	12	287	298	298	282	288	269	206	187	183	186	178	174	239
18	160	101	83	108	138	132	198	207	201	208	210	206	210	207	214	212	218	222	214	199	194	191	192	205	189
19	288	254	245	232	224	112	98	73	332	203	210	206	209	204	205	228	235	262	225	208	212	266	265	36	224
20	241	249	246	180	138	221	86	191	190	199	214	207	209	204	209	205	203	202	199	180	173	166	152	155	196
21	152	165	159	151	161	155	139	166	172	199	180	184	197	198	211	201	204	205	205	198	193	195	193	184	182
22	191	190	185	184	188	187	181	188	192	190	193	178	209	216	220	197	222	231	245	228	216	187	136	146	196
23	160	147	144	153	157	154	117	94	149	198	202	195	193	229	231	202	106	112	133	203	150	145	142	62	158
24	128	185	130	114	114	119	98	221	219	247	231	257	311	87	9	315	331	73	79	143	153	196	140	152	149
25	140	133	151	162	65	79	69	301	297	300	309	327	338	319	314	315	293	149	209	41	136	159	187	145	202
26	251	(CM)	32	193	211	80	173	79	20	321	307	324	336	359	29	180	203	308	255	22	65	158	170	246	307
27	223	222	225	262	238	194	291	214	0	359	53	55	40	137	145	129	87	134	145	159	143	133	109	106	147
28	114	125	163	236	37	145	127	87	57	354	305	298	294	286	303	305	143	88	220	256	295	223	235	240	240
29	207	158	11	(CM)	168	143	194	120	86	221	212	210	212	229	236	228	235	218	199	186	185	190	189	188	195
30	191	187	191	195	190	185	188	191	195	201	221	204	202	211	220	209	224	219	215	195	197	194	191	206	201
PV	186	178	176	175	158	149	131	165	252	258	257	254	266	257	250	233	250	238	220	190	178	177	163	166	215

WIND DIRECTION ■ 60M
DEGREES

CH-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	PREV
1	309	285	271	289	188	158	97	21	324	349	291	222	240	226	222	199	258	24	45	35	317	272	251	262	277
2	260	174	144	233	235	131	179	167	204	239	230	139	176	280	281	201	138	59	251	235	204	166	147	155	176
3	235	238	274	215	117	180	270	0	356	319	319	165	176	309	348	71	121	14	321	225	213	212	213	19	261
4	298	113	87	212	292	239	261	317	314	317	342	305	328	342	310	325	305	302	333	21	66	58	320	278	317
5	296	274	274	288	267	288	306	318	323	341	337	332	350	341	347	368	346	339	339	359	32	45	92	1	331
6	251	268	243	268	270	93	109	317	319	336	323	333	313	321	331	359	291	227	184	123	147	182	93	215	283
7	215	165	(CM)	259	343	(CM)	276	261	299	324	307	290	331	314	315	311	339	0	356	41	102	119	118	140	315
8	161	272	289	(CM)	146	168	124	16	14	80	238	338	350	357	68	394	311	270	170	149	143	141	136	128	121
9	138	121	135	142	156	193	94	(CM)	205	208	301	65	77	227	89	153	277	223	196	182	184	111	127	103	153
10	111	154	221	65	106	134	(CM)	102	131	170	144	244	210	207	217	230	199	225	210	197	201	190	187	181	180
11	177	167	190	186	153	164	154	189	191	202	201	203	194	190	203	205	211	163	153	109	141	190	86	148	178
12	120	198	242	159	227	178	197	211	181	161	153	312	316	297	253	196	107	107	258	248	300	311	336	60	201
13	242	211	64	100	146	250	251	325	340	6	3	322	329	337	293	262	309	307	313	341	(CM)	162	160	132	303
14	131	264	39	82	85	90	71	7	37	16	11	343	342	263	283	296	336	281	226	206	197	195	210	211	322
15	202	182	156	111	99	126	111	194	211	214	217	208	207	201	205	205	210	228	277	319	317	126	135	140	187
16	180	163	140	140	114	101	137	43	107	206	219	224	249	246	243	234	246	253	260	277	316	299	341	291	222
17	275	270	271	240	257	168	124	72	82	356	28	9	287	298	231	281	288	266	205	189	184	182	175	173	240
18	167	160	125	153	149	202	202	206	200	206	208	202	209	206	212	210	217	221	213	200	198	193	195	208	195
19	296	267	261	261	245	216	170	82	312	201	208	204	207	203	204	227	235	207	225	212	219	278	273	358	234
20	295	258	258	221	130	242	184	191	189	197	212	205	208	203	207	202	201	200	197	184	180	170	158	161	201
21	153	163	156	157	164	155	144	167	173	197	179	184	195	197	209	199	202	203	202	203	232	215	135	143	197
22	194	191	185	180	180	183	181	188	191	188	193	178	208	215	218	197	220	231	245	232	232	195	195	188	182
23	153	147	145	155	155	157	158	136	109	153	197	200	193	194	227	230	205	114	136	204	160	148	149	99	161
24	136	197	149	124	120	141	118	219	215	246	230	255	312	86	113	316	331	62	50	140	157	194	151	152	159
25	137	131	145	162	152	69	51	312	300	301	311	329	339	325	314	316	295	146	125	146	166	166	133	34	34
26	243	302	26	79	90	90	90	90	8	302	305	329	337	356	28	179	202	309	276	347	31	251	228	258	338
27	239	237	239	268	263	246	294	219	351	357	52	59	36	131	148	129	86	137	149	163	157	145	160	122	162
28	150	203	153	243	346	135	145	104	62	352	304	300	295	289	305	306	196	212	109	227	280	319	352	302	275
29	236	199	29	98	125	147	179	168	107	222	211	209	210	228	234	229	235	215	201	191	188	194	168	191	194
30	190	190	193	199	193	188	188	191	193	200	221	203	201	209	219	208	223	220	216	204	206	204	201	212	203

PV	203	203	189	183	162	164	156	172	240	256	255	254	268	258	250	234	249	238	222	199	184	183	169	168	221
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WIND DIRECTION AND
VELOCITY AVERAGE VELOCITY (DEG & MPS)
10 METER LEVEL

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

CATHEDRAL BLUFFS SHALE OIL CO.																										
DAY	HOUR (LOCAL STANDARD TIME)																			VECTOR						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DIR	VEL
1	233	234	251	254	176	149	93	17	325	344	302	223	242	229	225	201	263	24	44	31	255	245	227	233	241	1.5
2	203	141	202	221	209	135	170	169	207	242	231	200	281	283	201	132	56	249	233	196	158	126	148	182	212	1.5
3	133	133	236	103	193	215	23	8	3	320	317	168	173	317	358	71	120	8	330	215	206	214	253	307	197	0.3
4	125	185	220	7	208	256	279	307	319	343	336	331	352	342	349	350	351	341	341	358	47	112	140	270	312	1.5
5	231	141	223	246	90	256	279	307	319	343	336	331	352	342	349	350	351	341	341	358	47	112	140	270	312	1.5
6	204	217	169	261	82	207	23	339	315	338	323	325	315	323	336	359	309	226	178	103	157	205	159	197	289	0.5
7	135	235	210	219	**	210	308	261	315	327	305	287	327	309	313	307	340	358	355	47	131	143	143	197	315	0.4
8	243	284	171	212	204	210	**	312	323	71	245	344	12	339	66	4	313	274	164	151	142	137	125	115	182	0.1
9	105	114	115	104	97	79	81	24	205	209	301	67	90	212	102	117	270	217	196	181	191	90	115	92	154	1.2
10	123	148	222	114	150	163	45	167	129	180	128	243	209	209	220	233	200	227	212	198	198	191	329	90	198	1.3
11	89	82	82	89	91	82	82	192	195	205	204	207	195	194	207	207	215	220	262	253	304	313	339	70	210	2.7
12	124	202	240	150	231	168	189	207	175	158	149	310	313	302	250	122	105	159	143	82	139	53	114	164	172	1.2
13	240	212	60	118	185	241	230	315	341	4	4	323	328	341	294	262	305	307	313	344	199	199	65	119	307	1.2
14	163	231	104	114	111	114	86	180	214	217	215	210	206	198	208	211	212	230	284	318	194	161	167	174	190	1.6
15	47	102	104	114	111	114	86	180	214	217	215	210	206	198	208	211	212	230	284	318	194	161	167	174	190	1.6
16	191	137	127	124	106	109	100	0	125	211	220	225	253	248	246	235	245	255	263	270	294	268	251	229	233	1.8
17	205	224	229	167	264	135	109	53	81	352	34	13	289	300	233	284	289	271	209	189	186	194	184	176	220	1.3
18	139	66	40	82	144	55	194	208	201	211	213	205	212	207	215	213	219	223	216	201	196	191	193	204	203	4.0
19	247	249	233	216	208	102	90	67	349	204	212	209	210	207	205	229	237	230	227	207	181	172	168	158	157	3.9
20	215	219	228	142	158	292	71	193	193	204	217	208	210	207	212	208	205	204	199	180	172	168	158	156	197	4.4
21	161	171	166	155	163	141	167	174	201	182	186	198	199	211	221	202	205	208	208	202	205	225	218	223	188	4.4
22	228	214	199	197	191	190	183	189	194	191	197	180	210	217	221	198	225	231	246	221	209	176	150	158	201	3.1
23	197	150	146	156	161	156	106	87	151	195	203	196	192	229	232	201	108	115	135	205	142	149	148	52	167	2.4
24	129	176	122	110	111	104	90	225	220	247	231	258	314	88	8	317	336	73	90	151	153	196	136	156	165	0.6
25	141	129	180	168	45	94	86	302	299	303	309	328	338	316	316	317	295	155	218	50	145	173	191	135	290	0.6
26	228	175	**	205	204	53	180	75	23	323	312	326	336	3	33	185	208	312	255	37	74	149	117	236	314	0.2
27	209	216	221	256	180	219	293	215	5	1	61	48	45	141	147	131	89	133	146	159	133	125	90	112	130	0.6
28	124	122	175	223	95	159	103	86	55	355	309	301	297	280	305	308	194	217	81	212	233	261	215	212	270	1.1
29	199	201	349	261	196	145	201	83	77	221	212	212	214	230	238	229	235	223	199	189	193	192	199	193	211	2.3
30	201	193	196	199	195	188	191	192	197	202	224	204	205	214	222	210	226	220	215	197	198	194	188	200	205	4.0
VD	175	174	179	168	164	154	141	169	205	227	229	229	243	237	240	234	240	235	219	192	188	188	174	169	211	
VV	0.9	1.0	1.0	1.1	1.1	1.0	0.8	1.1	1.4	1.7	2.0	2.1	2.2	2.3	2.4	2.0	2.1	2.0	1.6	1.3	1.8	1.3	1.1	1.1	1.3	

TOTAL NUMBER OF OBSERVATIONS = 715

NOTE: **** = MISSING DATA

WIND DIRECTION AND
VECTOR AVERAGE VELOCITY (DEG & MPS)
30 METER LEVEL

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	1	2	3	4	5	6	7	8	9	10	HOUR (LOCAL STANDARD TIME)												21	22	23	24	DOR	VE
											11	12	13	14	15	16	17	18	19	20								
1	294	264	259	268	180	152	94	20	323	345	293	222	240	227	223	199	262	23	43	31	297	259	240	242	245	240		
2	145	169	175	134	226	126	173	166	205	240	230	199	279	281	201	132	60	246	32	198	159	135	145	173	211	3.4		
3	204	139	267	104	138	205	341	7	354	318	315	164	173	311	350	71	118	9	329	218	202	204	237	68	195	5.5		
4	229	210	229	318	206	243	318	312	314	345	304	325	343	308	325	302	299	334	24	106	135	227	277	316	2.1			
5	263	209	241	243	268	241	272	269	310	319	334	329	349	339	346	348	347	338	338	356	36	74	109	339	336	2.5		
6	240	227	204	287	83	121	85	330	314	323	320	321	310	321	332	358	305	226	178	113	148	205	114	236	293	0.7		
7	117	***	243	238	10	120	305	256	309	323	302	267	324	31	315	307	336	569	352	143	114	127	123	147	348	0.3		
8	149	280	***	198	175	192	101	392	331	273	241	340	3	336	315	11	310	270	164	148	148	138	129	109	143	0.4		
9	116	108	113	112	108	95	94	116	234	208	307	66	88	21	98	118	270	250	196	181	186	96	155	149	157	0.4		
10	116	157	118	98	131	146	91	111	132	178	135	242	195	191	218	229	201	266	211	194	193	190	192	141	196	2.1		
11	120	202	240	159	228	170	191	209	116	205	203	504	195	201	206	266	243	218	259	250	303	312	336	165	209	4.0		
12	113	234	209	64	163	241	233	316	339	4	4	321	327	337	292	260	304	305	313	338	189	176	109	120	303	1.8		
13	143	249	34	141	***	197	***	12	259	14	6	346	343	258	276	207	208	210	230	280	318	244	149	152	188	2.2		
14	163	111	114	114	113	127	101	185	212	215	216	211	206	199	207	208	210	230	280	274	311	284	307	259	235	2.5		
15	201	133	136	133	112	111	110	36	116	209	219	224	250	246	244	234	244	253	260	274	311	284	307	259	235	2.5		
16	237	249	250	215	307	81	118	59	80	354	331	12	287	298	231	282	288	269	206	187	186	178	174	215	1.9			
17	160	201	43	104	138	132	198	207	201	308	210	204	210	207	214	712	218	252	214	199	194	191	192	205	6.1			
18	284	254	245	232	224	112	98	73	332	203	210	206	209	204	205	228	235	228	255	208	212	266	265	36	222	4.5		
19	284	241	249	246	180	138	251	86	191	190	214	207	209	204	209	205	203	202	199	180	173	166	152	155	196	5.4		
20	121	152	165	159	151	161	155	139	166	172	199	180	184	197	198	211	204	205	205	198	193	193	184	183	6.5			
21	190	185	184	188	187	181	188	192	190	193	178	209	216	220	197	222	231	245	228	216	187	136	146	197	4.2			
22	133	160	147	154	157	154	117	94	149	198	202	195	193	229	231	202	106	112	133	203	145	142	62	163	3.6			
23	124	128	185	140	114	114	119	98	221	249	231	257	311	87	9	315	331	73	79	143	153	196	140	152	161	1.0		
24	140	133	151	162	65	79	69	301	297	300	309	327	338	319	314	315	293	149	209	41	136	159	187	145	281	0.6		
25	226	251	***	32	193	211	80	173	79	202	307	324	336	359	29	180	203	308	255	22	65	158	170	246	301	0.4		
26	223	222	225	262	238	194	291	214	0	359	53	55	40	137	145	129	87	134	145	159	143	133	109	106	138	0.9		
27	223	225	263	237	34	145	127	87	57	354	305	298	294	286	303	305	194	213	188	220	256	295	232	235	174	1.5		
28	114	125	163	238	114	***	168	143	194	120	86	221	212	212	229	236	228	235	218	199	186	189	189	207	3.6			
29	230	197	158	11	***	190	185	188	191	195	201	221	204	202	211	220	209	224	219	195	197	191	206	202	6.3			
30	171	174	175	168	159	157	151	187	201	225	227	227	241	235	239	233	238	231	217	193	185	184	165	165	207			

TOTAL NUMBER OF OBSERVATIONS = 714

NOTE: ### = MISSING DATA

WIND DIRECTION AND
VELOCITY AVERAGE VELOCITY (DEG & MPS)
60 METER LEVEL

CR-TRACT
TRAILER AR23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	VECTOR DIR VEL		
1	309	285	271	289	188	158	97	21	324	349	291	222	240	226	222	199	258	24	45	35	317	272	251	262	247	2.1	
2	260	174	144	213	235	131	179	167	204	239	230	197	280	281	201	138	59	251	235	204	166	147	155	176	212	3.8	
3	235	238	273	215	117	180	270	0	356	319	319	165	176	309	348	71	121	14	321	225	213	212	213	19	215	0.7	
4	258	113	87	212	292	239	261	317	314	317	342	305	328	342	310	325	305	302	333	21	66	58	320	278	321	2.4	
5	268	274	274	288	306	318	323	341	337	332	350	341	347	348	346	339	339	339	359	33	45	92	1	339	3.1		
6	291	238	243	268	270	93	109	317	319	336	323	333	331	321	331	359	291	227	184	129	147	182	93	215	290	0.8	
7	215	165	***	259	343	***	276	261	299	324	307	290	331	314	315	311	339	0	356	41	102	119	118	140	2	0.6	
8	161	272	289	***	146	163	124	16	14	80	238	338	350	337	68	354	311	270	170	149	143	141	136	128	147	0.8	
9	138	221	135	142	164	193	94	***	205	204	301	65	77	227	89	123	271	223	196	182	184	111	127	103	176	2.1	
10	111	154	221	65	106	134	***	102	131	170	144	244	210	207	217	230	199	225	210	197	201	190	187	181	198	2.6	
11	177	167	190	186	153	164	154	189	191	202	201	203	194	190	203	205	211	217	258	248	300	311	336	60	211	5.0	
12	120	198	242	159	227	174	197	211	181	161	153	312	316	297	253	196	107	163	153	109	141	190	86	148	175	2.2	
13	242	211	64	100	146	250	251	325	340	6	3	322	329	337	293	262	309	307	315	341	***	162	180	132	307	1.7	
14	131	264	39	82	85	90	71	37	16	11	343	342	363	283	296	336	286	277	277	319	317	126	135	140	196	2.4	
15	202	182	156	111	99	126	111	194	211	214	217	208	207	201	205	205	210	228	277	316	299	341	291	239	2.7		
16	180	163	140	140	114	101	137	43	107	206	219	224	249	246	243	234	246	253	260	277	316	299	341	291	239	2.7	
17	275	270	271	240	257	168	124	72	82	356	28	9	287	298	231	281	268	266	205	189	184	182	175	173	212	2.3	
18	167	160	125	153	149	202	202	206	200	206	208	202	209	206	212	210	217	221	213	200	198	193	195	208	202	7.6	
19	296	267	261	245	216	245	216	170	82	312	201	208	204	207	203	204	227	235	227	225	212	219	278	273	358	202	5.0
20	245	254	258	221	130	242	184	191	189	197	212	205	208	203	207	202	201	200	197	184	180	170	158	161	186	6.1	
21	153	163	156	157	164	155	144	167	173	197	179	184	195	197	209	199	202	200	203	202	195	195	188	182	7.2		
22	144	191	185	180	183	181	188	191	188	193	178	208	215	218	197	220	231	245	232	232	215	135	143	195	5.1		
23	153	147	145	155	157	158	136	109	153	197	200	193	194	227	230	205	109	114	136	204	160	148	149	89	164	4.5	
24	136	197	149	124	120	141	118	219	215	246	230	255	312	86	13	316	331	62	50	140	157	194	151	152	166	1.3	
25	137	131	145	162	52	69	51	312	300	301	311	329	339	325	314	316	295	146	204	48	125	146	186	133	289	0.4	
26	243	302	24	74	90	90	90	8	322	305	329	337	356	28	179	202	309	276	347	31	251	228	258	316	0.6		
27	239	237	239	268	263	246	294	219	351	357	52	59	36	131	148	129	86	137	149	163	157	145	140	122	150	1.0	
28	120	203	153	243	346	135	145	104	62	352	304	300	295	289	305	306	196	162	127	280	319	352	302	280	1.7		
29	236	199	29	98	125	147	179	168	107	222	221	209	228	234	229	235	215	201	191	188	194	188	191	205	4.1		
30	190	190	193	198	193	188	188	191	193	200	221	203	201	209	219	208	223	220	216	204	202	206	204	212	203	7.7	

TOTAL NUMBER OF OBSERVATIONS = 714

NOTE: *** = MISSING DATA

SIGMA HORIZ. WIND DIR. @ 10M
DEGREES

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	11	6	5	12	18	12	10	20	19	26	15	12	12	11	16	16	18	10	8	6	16	8	10	9	13	26
2	13	22	20	4	8	7	14	9	9	30	10	12	11	17	12	24	21	10	10	8	6	7	7	11	17	34
3	23	16	6	9	10	20	19	25	31	30	34	13	12	27	22	20	24	14	10	5	4	19	12	25	12	24
4	10	11	24	4	16	5	(CH)	16	23	16	15	24	12	14	9	9	9	15	11	10	10	11	3	19	13	24
5	6	3	3	17	15	15	11	9	9	10	11	13	14	13	14	12	13	13	9	5	15	11	10	10	12	34
6	11	3	25	29	12	19	13	18	21	33	40	32	28	21	18	16	16	9	10	7	5	10	10	21	16	40
7	8	14	14	18	(CH)	23	15	29	35	29	24	32	32	25	24	32	21	27	9	5	7	4	10	15	20	35
8	25	23	21	9	10	16	(CH)	16	12	31	23	12	17	12	12	29	17	15	11	7	11	15	13	7	16	31
9	8	6	5	4	5	7	9	32	17	16	16	18	16	10	16	16	12	11	10	7	18	13	6	8	12	32
10	6	12	18	10	11	19	13	22	37	40	36	19	30	21	12	14	25	21	8	5	5	23	30	17	19	40
11	12	6	6	6	5	12	9	11	9	11	13	12	13	11	11	12	12	12	8	9	9	10	7	10	13	13
12	7	15	11	7	10	9	25	12	8	19	10	12	12	10	19	19	11	9	13	10	7	13	8	7	12	25
13	9	18	9	15	6	12	23	21	15	17	20	18	10	25	9	15	19	17	13	5	12	8	11	17	14	25
14	6	12	11	17	15	8	20	24	28	33	26	34	35	34	34	34	21	18	11	7	5	13	(CM)	35	21	35
15	21	7	6	4	4	5	9	24	11	15	29	27	24	21	21	18	9	12	6	9	15	8	3	6	13	29
16	11	7	11	9	8	5	12	19	24	21	12	13	12	15	13	13	9	10	8	9	18	8	17	5	12	24
17	10	4	4	13	13	13	16	25	34	22	30	27	30	35	29	15	15	12	9	6	6	6	5	5	13	30
18	19	8	19	28	9	23	30	11	9	10	12	13	14	14	15	16	14	11	9	7	6	6	5	5	12	35
19	15	6	5	8	11	31	32	15	26	14	14	12	12	13	14	12	11	11	11	5	2	2	4	10	16	14
20	22	10	5	9	10	13	11	12	11	13	13	14	14	13	14	12	11	11	11	5	2	2	4	10	22	32
21	5	6	5	4	5	6	9	11	11	14	15	14	16	12	14	12	12	12	9	5	3	13	20	14	10	20
22	9	9	9	8	18	25	8	8	9	11	16	15	14	18	15	14	15	12	9	5	4	13	6	14	12	25
23	18	11	7	7	5	8	12	14	26	24	14	15	17	25	11	10	12	6	9	11	16	7	18	11	13	28
24	23	11	12	8	11	10	32	22	24	21	15	24	29	11	12	14	10	16	13	4	10	11	18	7	16	32
25	5	7	(CH)	9	11	9	18	16	17	13	13	17	18	16	11	13	13	11	17	12	6	5	9	10	16	13
26	14	5	6	7	6	9	10	19	20	22	33	24	18	15	8	16	16	15	8	7	12	6	5	9	11	33
27	4	5	6	7	5	21	10	19	19	12	25	23	21	37	29	16	16	15	8	7	11	10	12	6	15	37
28	4	15	8	18	8	6	11	15	21	19	20	13	11	12	10	23	11	17	13	7	12	13	9	13	23	31
29	9	15	18	16	14	17	25	19	17	21	13	14	16	16	11	11	13	12	7	5	5	5	8	5	13	25
30	5	5	5	5	5	6	9	11	10	11	11	16	13	13	13	15	11	9	7	4	4	5	11	18	9	18
AV	12	11	11	11	10	13	16	17	19	20	19	18	18	18	16	16	14	13	10	7	9	10	11	12	14	40
PK	25	34	25	29	18	31	32	32	37	40	40	32	34	37	34	34	25	27	17	17	18	23	30	35		

SIGMA HORIZ. WIND DIR. @ 30M
DEGREES

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK	
1	10	7	4	9	19	9	10	20	15	24	15	10	11	10	15	14	15	9	7	6	19	8	11	10	12	24	
2	14	17	22	6	5	6	13	8	8	8	9	10	10	16	11	19	22	8	9	6	5	7	5	8	11	22	
3	29	18	8	10	5	22	19	28	32	25	31	10	10	23	20	18	24	14	10	4	2	18	11	11	17	32	
4	21	12	11	9	14	7	16	13	15	14	15	19	10	13	8	7	8	14	9	9	12	12	6	13	12	21	
5	7	12	6	10	17	6	7	9	8	9	9	11	13	11	13	11	12	11	7	4	7	7	7	7	9	17	
6	13	6	20	10	7	9	11	21	18	28	35	31	25	19	17	18	12	8	9	8	4	8	20	22	15	35	
7	11	(CM)	16	25	8	14	14	24	31	22	21	25	30	23	22	25	19	23	9	4	6	3	6	12	17	31	
8	12	10	(CM)	15	10	20	36	25	15	32	21	11	14	11	10	26	17	14	11	5	7	12	13	6	15	36	
9	7	4	4	5	8	19	10	30	15	14	6	13	9	21	13	11	11	8	6	3	15	10	4	6	11	30	
10	5	9	9	8	16	9	10	17	32	31	34	17	27	18	10	14	20	14	6	3	3	15	37	24	16	39	
11	19	20	14	20	10	7	6	20	9	9	11	11	12	9	10	11	10	10	7	8	9	7	8	6	11	20	
12	6	13	10	6	7	6	20	9	7	15	14	11	10	8	15	15	18	7	11	8	5	9	6	5	9	20	
13	9	15	8	9	6	7	22	22	13	17	18	15	9	24	8	13	17	14	10	5	11	6	13	8	12	24	
14	7	16	5	12	(CM)	12	(CM)	30	33	30	24	28	29	34	31	27	24	17	10	4	7	23	34	20	21	34	
15	45	27	7	3	4	4	6	31	9	13	22	23	20	19	20	16	9	11	6	7	28	5	3	6	14	45	
16	10	15	8	9	5	6	13	19	25	18	11	12	10	13	12	12	9	9	7	9	12	7	18	13	12	25	
17	10	9	8	17	21	19	11	27	34	24	37	23	30	30	22	14	13	12	8	4	4	4	4	7	5	16	37
18	8	23	17	33	9	53	19	10	9	9	10	11	12	12	14	13	12	10	7	6	5	4	5	3	13	53	
19	13	6	6	12	9	14	38	16	20	12	11	10	12	12	11	11	10	9	7	4	8	11	9	23	12	38	
20	24	12	6	7	10	10	25	10	9	12	11	12	12	12	12	11	9	9	8	4	2	24	21	17	10	24	
21	4	5	4	4	3	5	8	10	10	13	13	13	14	11	13	11	11	10	8	4	2	24	21	17	10	24	
22	25	8	4	6	24	8	7	7	7	9	14	14	12	15	13	12	13	10	7	5	4	12	5	7	10	25	
23	13	6	5	5	3	6	11	13	22	29	13	14	17	23	9	10	10	7	8	9	12	4	12	16	12	29	
24	11	11	13	6	8	12	22	19	19	18	14	23	28	9	13	13	9	17	11	7	6	9	16	5	13	28	
25	3	3	11	7	6	7	18	15	13	12	12	16	18	12	10	12	10	11	10	18	11	7	7	10	11	18	
26	10	(CM)	8	6	7	7	13	11	25	20	26	20	17	17	10	6	7	10	13	11	7	16	5	4	7	12	
27	6	5	4	6	4	6	8	17	16	11	25	18	20	32	26	14	14	13	7	5	13	10	12	4	12	32	
28	3	14	6	9	9	4	8	12	19	17	18	12	8	11	9	23	10	16	17	7	15	12	19	15	12	23	
29	13	13	11	(CM)	10	19	25	20	20	19	12	12	15	15	10	10	11	10	7	3	3	4	6	3	12	25	
30	5	4	4	4	5	4	8	9	9	10	8	13	12	12	12	13	10	8	6	3	2	3	7	18	8	18	
AV	12	11	9	10	9	11	15	17	17	17	18	15	16	16	14	14	13	12	9	8	8	9	11	10	13	53	
PK	45	27	22	33	24	53	38	31	34	32	39	31	30	34	31	27	24	23	17	18	28	24	37	24			

SIGMA HORIZ. WIND DIR. # 60M
DEGREES

CR-TRACT
TRAILER, AA23
JUNE, 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	HOUR (LOCAL STANDARD TIME)																								AVE PEAK
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	6	6	4	8	14	8	9	20	14	21	15	10	9	9	14	14	14	8	7	5	7	7	8	7	10
2	16	19	5	6	4	7	9	28	32	20	24	9	8	15	22	17	20	7	7	4	3	12	3	5	18
3	27	19	5	1	9	10	28	17	13	17	13	16	10	11	6	7	26	15	10	3	1	12	13	7	32
4	12	13	7	13	5	4	9	13	8	8	14	16	10	11	13	10	11	12	9	6	11	1	8	12	10
5	5	4	8	7	5	2	5	9	8	4	8	11	12	10	13	10	11	10	7	4	5	4	6	6	7
6	10	6	15	6	8	2	0	17	20	23	39	28	21	16	16	7	11	6	7	7	3	11	11	4	12
7	1	6	(CM)	4	(CM)	4	15	19	32	19	23	32	20	22	23	17	19	8	3	4	4	4	4	4	16
8	11	5	2	(CM)	5	8	8	17	18	33	19	10	14	10	9	25	14	14	10	3	4	8	8	7	11
9	8	5	8	12	15	19	21	(CM)	13	12	13	15	10	19	30	10	10	7	4	14	13	5	4	11	30
10	4	23	26	21	18	20	24	8	19	27	32	17	21	15	8	13	17	13	5	2	2	7	11	19	32
11	5	9	9	5	5	5	15	9	6	11	17	10	10	7	13	7	5	5	7	8	2	6	7	5	12
12	6	10	7	4	4	5	21	23	11	15	15	13	7	20	7	11	15	13	9	5	(CM)	4	15	6	15
13	8	10	5	1	2	0	6	24	27	24	23	23	25	31	28	26	18	14	10	2	1	37	23	16	37
14	6	5	5	1	2	0	6	24	27	24	23	23	25	31	28	26	18	14	10	2	1	37	23	16	37
15	17	23	23	10	6	10	9	21	7	12	19	22	17	16	15	16	8	10	6	6	8	4	4	4	12
16	9	7	9	9	17	11	9	14	17	22	11	12	9	12	12	10	8	7	7	7	9	6	12	15	11
17	8	5	10	6	17	11	12	19	27	24	35	25	26	28	19	14	10	11	8	7	4	3	3	4	13
18	3	29	35	32	10	31	12	8	8	8	9	10	10	11	12	13	11	8	7	4	3	1	2	2	12
19	11	5	4	9	7	3	9	16	28	11	11	11	9	11	11	10	10	9	6	2	7	8	8	20	10
20	13	4	3	4	6	8	23	7	8	9	10	11	12	10	12	10	8	8	8	5	3	2	4	3	8
21	3	2	2	2	2	3	5	6	7	8	12	11	12	11	12	11	10	6	3	2	11	12	4	8	17
22	7	4	2	3	17	3	3	11	12	19	12	12	15	13	12	12	12	10	6	5	2	10	7	4	8
23	6	4	4	4	2	3	3	12	16	27	10	12	18	20	8	10	10	7	7	7	12	3	8	8	10
24	6	8	11	5	6	14	24	12	13	11	10	13	7	8	9	10	8	15	13	9	3	7	15	3	12
25	2	3	6	4	6	6	8	10	13	11	19	20	15	15	8	5	4	9	16	12	9	5	5	6	9
26	4	6	5	1	0	0	0	0	21	16	19	20	15	15	8	5	4	9	16	12	9	4	0	6	18
27	3	3	2	3	1	2	6	17	18	12	28	16	17	36	17	11	12	11	6	3	9	7	14	5	11
28	4	17	7	5	8	3	5	12	23	15	19	12	8	10	8	19	9	17	22	4	13	11	24	17	12
29	9	5	9	2	12	15	27	16	16	20	11	11	14	13	9	11	11	11	5	2	2	2	5	2	10
30	2	3	2	1	2	2	6	8	8	9	8	12	11	11	11	12	8	8	5	2	1	1	3	9	6
AV	8	9	9	7	7	7	11	14	16	16	16	14	14	15	13	13	11	10	8	5	5	7	8	7	10
PK	27	29	35	32	18	31	27	28	32	33	39	28	32	36	30	26	26	19	22	18	14	37	24	20	39

TEMPERATURE ■ 10M
DEGREE C

CB-TRACT
TRAILER AA23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	HOUR (LOCAL STANDARD TIME)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	7	5	4	4	5	5	6	7	8	10	13	17	20	21	19	19	19	16	13	11	9	8	7	6
2	6	6	5	5	5	5	9	12	11	9	7	11	11	10	6	10	14	10	7	6	7	7	6	6
3	7	7	6	4	3	4	6	11	13	17	18	14	13	16	18	19	18	19	18	16	12	11	9	9
4	8	9	6	7	4	4	8	11	14	17	18	19	18	16	15	14	15	13	12	11	9	8	7	11
5	6	4	5	4	3	5	6	6	6	7	9	11	13	14	15	16	15	15	13	11	9	7	6	9
6	4	4	4	3	3	3	6	9	12	16	17	18	19	19	18	16	14	9	9	8	7	6	5	10
7	4	4	4	4	3	3	6	9	12	13	16	17	18	19	21	21	21	20	16	13	11	10	9	12
8	9	7	7	7	7	8	10	13	14	18	18	17	13	13	17	18	19	13	10	9	8	7	6	12
9	6	7	7	7	7	7	9	14	18	19	19	14	18	12	13	16	16	14	12	9	8	7	8	12
10	9	8	7	7	7	8	9	12	17	19	21	20	22	22	19	17	19	22	19	17	14	13	12	11
11	11	9	9	9	9	10	13	19	19	21	23	24	24	23	23	24	23	21	19	18	16	12	11	9
12	9	8	8	8	7	6	6	7	5	6	7	7	4	4	4	4	3	4	7	6	4	3	3	3
13	3	3	2	2	2	2	3	6	7	8	8	11	9	12	8	10	12	12	12	9	7	5	3	2
14	2	2	1	1	1	1	4	8	11	13	15	17	17	17	18	17	16	18	17	14	10	9	8	7
15	7	6	6	6	5	6	9	13	17	18	19	21	22	23	23	23	20	21	18	16	14	12	12	14
16	9	9	9	9	9	10	12	13	17	21	23	24	24	24	24	23	23	21	21	20	17	15	13	12
17	12	10	9	8	7	7	10	14	17	20	21	22	24	26	26	26	25	25	23	21	18	18	17	18
18	14	13	14	14	14	13	17	21	23	24	25	26	27	27	28	28	28	27	26	23	21	21	21	18
19	16	14	13	11	10	10	12	16	19	23	24	25	25	26	26	26	26	26	24	22	17	17	16	15
20	14	13	11	10	11	11	9	12	19	21	23	24	26	26	26	26	26	25	22	19	19	18	18	19
21	17	16	15	15	16	18	18	20	21	23	24	24	26	26	27	27	27	26	25	22	18	17	14	21
22	13	16	15	13	15	13	19	21	23	25	27	27	27	28	28	28	28	27	26	23	19	18	16	21
23	16	15	16	15	15	15	17	18	22	24	26	26	27	27	27	27	27	27	25	15	14	13	13	18
24	13	13	13	13	13	13	16	19	20	21	22	23	23	16	19	16	16	18	15	13	14	13	12	16
25	12	11	11	11	11	11	11	12	14	17	19	21	19	17	21	22	20	9	8	9	9	9	9	13
26	9	8	8	8	8	8	9	11	13	17	18	20	21	20	14	12	13	12	11	11	11	10	10	12
27	11	10	10	10	10	10	10	11	13	15	17	18	18	18	18	18	18	20	18	15	13	13	12	11
28	11	10	9	9	8	8	10	13	17	19	22	22	23	23	22	19	20	20	18	15	13	13	12	11
29	11	10	8	8	7	7	8	11	17	22	23	23	24	23	22	19	20	23	19	18	15	13	13	12
30	16	16	15	14	16	16	18	19	20	21	22	23	24	24	26	26	25	23	22	18	16	16	15	13

MONTHLY MINIMUM = 1

TEMPERATURE 30M
DEGREE C

CB-TRACT
TRAILER AA23
JUNE 1943
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	HOUR (LOCAL STANDARD TIME)																								AVE	PEAK
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	7	6	5	4	5	5	6	7	8	10	13	16	18	18	18	18	18	14	13	11	8	8	7	7	10	18
2	7	6	5	5	6	5	7	12	13	14	17	10	9	9	6	10	13	10	7	6	6	6	6	6	7	13
3	6	6	5	4	4	2	9	11	13	16	17	18	17	16	17	18	18	18	17	15	13	13	11	10	12	18
4	9	9	7	7	6	5	9	11	13	16	17	18	17	17	16	15	14	13	12	9	8	7	6	11	18	13
5	6	5	3	5	4	5	6	5	5	6	9	11	13	13	13	12	13	3	3	6	4	3	8	6	6	13
6	4	5	3	3	3	3	6	9	12	14	16	17	18	17	18	17	13	6	6	7	7	7	6	4	9	18
7	4	5	3	5	4	3	6	9	11	13	14	16	17	18	19	19	19	19	18	16	14	13	12	11	12	19
8	9	8	7	7	7	6	8	9	12	16	15	13	11	13	14	14	13	11	9	9	7	6	7	-2	10	16
9	3	4	7	8	8	8	10	14	16	18	17	15	17	17	11	12	9	2	9	6	6	6	13	8	14	19
10	8	9	9	8	8	8	9	12	16	18	19	19	19	19	18	17	18	19	18	17	16	14	13	8	14	19
11	9	8	11	11	12	12	14	18	19	20	21	22	22	22	22	23	22	21	19	16	12	11	9	16	23	23
12	8	6	6	6	6	5	6	5	5	6	7	9	4	4	4	7	3	4	6	5	4	4	3	3	5	8
13	4	3	3	3	2	2	3	4	4	6	7	9	8	7	3	7	9	-2	4	3	7	6	5	2	5	9
14	2	3	2	1	1	2	3	8	11	12	13	15	15	16	17	16	18	16	16	14	12	11	8	10	18	18
15	7	6	6	8	7	7	8	12	14	16	17	18	19	19	19	20	19	19	17	14	13	12	12	13	20	18
16	11	9	11	10	11	11	12	13	16	17	3	15	15	16	17	17	17	16	16	15	12	11	8	8	13	17
17	7	6	7	-2	-2	1	-1	11	4	13	14	16	18	19	20	20	20	20	20	17	15	16	15	13	12	23
18	12	13	14	12	11	11	11	6	8	9	11	11	13	19	19	27	27	27	26	17	8	8	8	8	13	27
19	4	8	3	7	12	11	13	16	18	22	23	23	23	24	24	25	25	24	23	22	20	18	17	16	18	25
20	15	13	12	11	12	10	13	18	21	21	22	23	24	24	24	24	25	25	24	22	21	21	19	16	20	25
21	18	17	17	16	16	18	19	21	22	22	23	24	24	25	25	26	26	26	24	22	21	20	16	16	20	25
22	17	16	19	18	17	16	19	21	22	23	24	24	25	25	26	26	26	26	24	23	21	20	16	16	21	26
23	14	15	16	16	14	14	14	17	18	19	21	22	22	22	17	16	15	14	13	14	11	9	9	15	22	26
24	9	9	10	11	13	13	15	17	18	19	19	22	22	14	17	14	16	17	14	15	14	13	12	15	22	22
25	12	11	11	11	11	11	11	12	14	17	18	19	19	16	20	21	19	11	6	7	6	8	10	13	21	19
26	9	9	9	9	9	9	9	11	13	16	17	19	19	13	8	11	8	9	9	6	4	3	3	4	10	19
27	4	4	4	3	3	4	4	9	12	12	12	14	14	11	11	11	16	12	10	11	13	12	11	9	10	18
28	7	8	9	9	8	8	8	11	16	18	20	21	21	22	21	21	17	18	18	17	13	12	11	8	14	22
29	7	-1	9	8	7	3	9	9	13	21	21	22	22	22	22	23	23	23	22	18	9	16	16	10	15	23
30	9	8	8	8	7	8	11	17	12	11	12	13	14	14	16	16	18	16	14	12	11	10	9	8	12	18

MONTHLY MINIMUM = -7

902 1 11

27

TEMPERATURE ■ 60M
DEGREE C

CB-TRACT
TRAILER 4423
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	7	6	5	4	4	4	5	7	8	10	13	17	18	19	18	19	18	14	12	11	9	8	8	7	11	19
2	7	7	6	6	6	6	10	12	11	8	6	11	9	9	6	11	13	10	7	6	8	7	8	7	8	13
3	8	7	7	6	5	6	7	11	13	15	16	13	13	16	17	18	18	18	18	16	15	14	13	10	12	18
4	9	10	8	7	6	6	8	11	13	16	18	18	17	17	16	14	13	13	12	11	10	9	8	8	12	18
5	7	6	6	6	5	6	6	6	6	7	8	9	12	13	14	14	14	14	13	11	11	10	8	9	14	18
6	6	6	6	4	4	4	7	9	12	14	16	17	17	18	17	15	13	9	7	7	7	7	6	6	10	18
7	5	5	5	4	4	4	6	9	11	13	14	16	17	18	19	19	19	13	16	16	14	13	12	12	12	19
8	11	9	8	7	8	11	12	13	14	17	18	16	13	13	16	17	18	13	10	10	9	8	7	7	12	18
9	8	8	8	9	9	9	11	14	17	18	18	16	17	14	13	16	14	14	12	10	10	9	9	10	12	18
10	10	11	10	9	9	9	11	12	16	18	19	19	21	21	18	17	19	19	17	17	17	16	14	13	15	21
11	13	12	12	12	12	13	16	18	19	21	22	23	23	23	22	23	23	21	18	18	16	12	11	9	17	23
12	9	8	7	7	7	6	6	6	4	6	7	6	4	4	4	3	3	4	6	5	4	4	3	4	5	9
13	4	3	3	3	2	2	3	4	6	8	8	9	8	11	8	8	11	11	11	9	8	7	6	4	6	11
14	3	3	3	3	3	3	4	8	11	13	14	15	15	16	16	16	17	17	16	14	13	12	9	9	10	17
15	9	8	8	8	8	8	11	13	16	17	18	19	21	22	22	22	22	21	20	16	14	13	13	13	15	22
16	12	11	12	12	12	12	14	14	17	21	22	22	22	23	24	24	22	21	21	20	18	16	15	13	17	23
17	13	11	11	10	8	8	11	14	17	19	20	21	23	24	24	24	24	24	24	23	21	20	18	16	18	24
18	17	16	17	16	16	16	18	21	22	23	24	25	26	26	27	27	27	27	26	23	23	23	22	22	22	27
19	18	15	14	13	12	12	16	18	19	22	23	24	24	24	25	25	26	24	24	22	21	18	17	17	19	26
20	15	13	13	12	12	11	14	19	21	22	23	23	24	25	25	25	26	25	24	22	21	19	19	19	20	26
21	19	18	18	18	17	17	18	19	21	22	23	24	25	26	26	26	26	26	24	23	22	20	18	18	21	26
22	19	19	21	19	18	18	19	21	22	23	24	25	26	27	27	27	27	26	24	23	23	21	19	19	22	27
23	18	18	17	17	16	16	17	18	21	23	24	25	26	26	26	26	26	26	24	23	23	21	19	19	22	27
24	14	14	14	13	13	13	15	18	19	20	21	22	22	22	22	22	22	17	17	15	14	14	14	14	19	26
25	13	12	12	12	11	11	12	12	12	14	17	18	19	18	16	15	16	17	14	14	15	14	13	12	16	22
26	10	9	9	9	9	9	10	12	14	16	17	19	19	18	20	21	19	9	9	9	9	9	11	11	13	21
27	10	10	10	10	10	10	10	11	12	13	14	15	16	17	17	18	13	11	11	11	11	10	10	10	12	19
28	12	12	10	10	9	9	11	14	17	19	21	22	22	23	22	21	19	19	18	16	14	13	13	12	14	19
29	15	11	11	9	9	10	11	13	17	21	22	22	23	22	23	23	24	23	22	21	20	19	19	20	18	24
30	19	18	18	18	17	17	18	18	19	20	21	22	23	23	24	24	23	23	22	21	20	19	18	17	20	24

MONTHLY MINIMUM = 2

AV	11	10	10	10	9	10	11	13	15	17	18	18	19	19	19	19	19	18	17	15	14	13	13	12	14	27
PK	19	19	21	19	18	18	19	21	22	23	24	26	26	27	27	27	27	27	26	23	23	23	22	22	22	
MN	3	3	3	3	2	2	3	4	4	6	6	6	4	4	4	3	3	4	6	5	4	4	3	4	4	

DELTA TEMPERATURE 60-10M
DEGREE C*100

CR-THACT
TRAILER AA23
JUNE 1983
CATDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK	
1	-11	61	6	-6	-72	-78	-78	-72	-67	-56	-67	-100	-172	-167	-106	-100	-94	-106	-78	-39	11	28	56	67	-52	67	
2	78	72	50	56	56	33	50	-78	-83	-106	-78	-89	-122	-128	-44	-17	-133	-56	-28	0	61	50	89	67	-13	89	
3	128	44	17	106	117	94	61	-28	-100	-106	-161	-117	-50	-89	-122	-133	-94	-122	-106	28	228	283	156	100	6	283	
4	106	89	200	94	189	56	-22	-72	-128	-100	-111	-139	-144	-106	-72	-78	-72	-61	-44	-28	28	33	50	100	-10	200	
5	94	56	39	78	128	78	17	-50	-61	-72	-89	-106	-111	-122	-117	-133	-111	-111	-89	-83	67	239	100	139	-9	239	
6	167	83	122	94	94	83	44	-11	-117	-172	-189	-211	-167	-122	-128	-167	-67	-39	-28	33	100	122	83	-21	167		
7	50	11	61	50	61	39	-61	-33	-144	-78	-122	-194	-163	-172	-121	-172	-139	-144	-117	-6	111	156	178	156	38	178	
8	172	178	83	-11	133	267	150	44	0	-72	-78	-72	-33	-44	-128	-117	-122	-67	-17	7	50	44	11	89	20	267	
9	150	156	150	222	228	244	78	-44	-94	-111	-117	72	-67	111	0	-67	-100	-56	-28	-22	6	22	94	106	39	244	
10	122	156	172	161	117	94	106	22	-94	-83	-144	-150	-194	-128	-111	-67	-94	-172	-100	17	217	200	206	217	19	217	
11	228	178	217	233	256	233	144	-44	-56	-78	-100	-117	-122	-106	-63	-100	-94	-44	-28	17	-28	-50	-44	-22	16	256	
12	0	-44	-100	-50	-6	-39	0	-117	-78	-61	-78	-106	-100	-111	-94	-83	-78	-83	-133	-72	44	78	33	33	-52	78	
13	-6	6	94	128	194	144	94	-61	-22	-200	-117	-144	-256	-256	-228	-206	-233	-283	-156	-139	-117	50	106	183	133	-80	183
14	61	94	128	194	144	94	-61	-33	-89	-194	-272	-289	-172	-206	-206	-217	-133	-200	-122	-6	200	244	122	161	-33	244	
15	183	194	233	233	222	200	-61	-33	-117	-106	-139	-244	-189	-150	-161	-139	-144	-111	-33	-111	-17	56	133	183	-5	233	
16	200	156	228	250	239	178	167	56	28	-78	-117	-156	-128	-178	-156	-128	-89	-67	-44	-33	39	94	111	89	28	250	
17	72	94	100	128	106	61	67	-17	-89	-133	-83	-122	-211	-156	-194	-144	-106	-117	-89	11	178	211	183	144	-4	211	
18	228	228	244	283	194	178	117	-39	-72	-83	-106	-111	-139	-128	-128	-106	-94	-61	56	61	506	-161	267	0	283	61	
19	133	50	106	178	150	111	33	-22	-50	-83	-106	-122	-144	-133	-117	-128	-122	-100	-33	100	294	150	122	117	16	294	
20	83	72	111	128	106	167	139	0	-78	-78	-111	-128	-128	-117	-128	-117	-100	-94	-72	6	150	178	111	161	11	178	
21	189	183	200	189	122	-22	-61	-78	-83	-106	-122	-128	-133	-128	-117	-106	-94	-72	33	206	250	333	383	43	383		
22	450	522	456	400	261	394	33	-44	-72	-72	-83	-94	-144	-133	-144	-117	-111	-133	-106	-11	328	328	272	244	101	522	
23	206	211	72	83	111	61	-44	6	-83	-61	-106	-117	-133	-139	-78	-33	-72	-61	-44	-39	0	39	72	78	-3	211	
24	78	33	17	44	17	28	-44	-94	-89	-139	-106	-144	-136	-139	-89	-94	-72	-78	-44	61	78	-17	-22	0	-38	78	
25	78	89	56	6	17	39	39	28	11	-111	-133	-150	-161	-117	-100	-67	-44	-78	-67	-89	-61	-50	-39	-44	89	-44	
26	89	56	6	17	39	39	28	11	-111	-133	-150	-161	-117	-100	-89	-117	-111	-61	-144	-256	-17	-17	-67	-85	17	106	
27	-56	33	-22	-28	-22	-33	-39	-61	-206	-78	-100	-139	-161	-117	-100	-89	-117	-111	-61	17	-28	-483	-61	-161	95	106	
28	-417	83	67	106	56	61	33	6	-94	-122	-156	-311	-167	-156	-122	-172	-94	-100	-61	17	-28	-483	-61	-161	95	106	
29	78	17	117	172	183	211	222	172	17	-117	-117	-117	-111	-94	-63	-83	-106	-89	-33	117	217	228	178	156	47	228	
30	228	200	211	267	211	33	6	-44	-67	-78	-117	-100	-122	-133	-144	-117	-117	-61	-6	178	289	28	-83	294	31	294	
AVG	105	110	112	124	118	104	34	-32	-79	-98	-123	-140	-144	-120	-120	-116	-106	-93	-61	-7	85	68	87	113	-8		
PK	502	456	400	261	394	222	172	28	-56	-67	72	-33	111	0	-17	-44	17	50	178	328	328	333	383		522		
MIN	-417	-44	-100	-50	-6	-39	-44	-200	-206	-194	-272	-311	-222	-206	-233	-283	-283	-283	-283	-150	-256	-256	-161	-161			

MONTHLY MINIMUM = -506

BAROMETRIC PRESSURE
MILLIBARS

CR-TRACT
TRAILER AB23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	783	783	784	784	784	784	783	783	783	783	783	783	782	782	782	782	782	782	783	783	784	784	785	785	783	785
2	785	785	785	785	785	785	785	786	786	787	788	787	788	788	788	788	788	789	790	790	791	791	791	791	788	791
3	791	791	791	792	792	792	792	793	793	793	793	793	793	793	792	792	791	791	791	791	791	792	792	792	792	793
4	791	791	791	791	791	791	791	791	791	791	790	790	790	789	789	789	790	790	791	791	791	792	792	791	792	793
5	792	792	792	792	792	793	793	794	794	794	794	794	794	793	793	793	793	793	793	793	794	794	794	793	794	
6	794	794	794	794	794	794	794	794	794	794	793	793	793	792	792	792	792	793	793	793	794	794	794	793	794	
7	794	793	793	793	793	793	794	794	794	794	793	793	793	793	792	792	792	792	792	792	792	792	792	792	794	
8	792	792	792	792	792	792	792	793	793	792	792	792	792	792	792	791	791	792	792	792	792	792	792	792	793	
9	792	792	792	791	792	792	792	792	792	792	792	791	791	791	791	791	791	792	792	792	792	792	793	793	792	793
10	793	793	793	793	793	793	794	794	794	794	793	793	793	792	792	792	792	791	791	790	791	791	790	792	794	
11	790	790	789	789	789	789	789	788	788	788	787	787	786	786	785	784	784	784	784	785	786	787	787	787	790	
12	787	787	787	787	787	787	787	787	788	788	788	788	789	789	789	789	789	789	789	790	790	791	791	791	789	
13	791	791	791	792	792	792	793	793	794	794	794	794	795	795	795	795	795	795	796	796	797	797	797	797	794	
14	797	797	797	797	797	797	797	797	797	797	797	797	796	796	795	795	794	794	794	794	794	795	795	795	796	
15	795	794	794	794	794	794	794	794	794	794	794	794	793	793	793	792	792	792	792	792	792	792	792	792	793	
16	792	792	791	792	792	792	792	792	792	792	792	792	792	792	791	791	791	791	791	792	792	792	792	792	793	
17	793	793	794	794	794	794	794	795	795	795	795	794	794	794	793	793	793	793	793	793	792	792	792	792	793	
18	791	791	791	791	791	791	791	791	791	791	790	790	790	790	790	789	789	789	789	788	789	789	789	790	791	
19	789	790	790	790	790	790	790	791	791	791	790	790	790	790	789	789	789	789	789	790	790	790	790	790	791	
20	790	790	790	790	790	790	790	790	790	790	791	790	790	790	789	789	789	789	789	790	790	790	790	790	791	
21	789	789	790	790	790	791	791	792	792	793	792	792	792	792	793	793	793	793	793	793	794	794	794	792	794	
22	794	795	795	795	795	796	796	796	797	797	797	797	797	796	796	796	795	795	795	796	796	796	796	796	797	
23	796	796	796	796	796	797	797	797	797	797	797	797	796	796	795	795	795	795	796	796	796	797	797	796	797	
24	796	796	796	796	796	796	795	795	795	795	795	795	794	794	794	794	794	794	794	794	794	795	795	795	796	
25	794	794	794	793	793	793	793	793	793	793	793	792	792	791	791	791	790	790	792	792	792	792	792	792	794	
26	791	791	791	791	792	792	792	792	792	792	792	792	792	791	791	791	792	792	792	792	792	792	792	792	794	
27	793	793	793	793	793	793	793	793	793	794	794	794	793	793	793	793	793	793	793	792	792	792	792	792	794	
28	793	793	793	793	794	794	794	793	793	793	793	793	792	792	792	792	792	791	791	792	792	792	792	792	794	
29	792	792	792	792	792	792	792	791	791	791	791	791	790	790	790	790	789	789	789	789	789	789	789	788	790	
30	788	788	788	788	789	789	789	790	790	790	790	790	790	790	790	790	790	790	790	790	790	790	790	790	790	

MONTHLY MINIMUM = 782

AV	792	792	792	792	792	792	792	792	792	792	792	792	792	791	791	791	791	791	791	791	792	792	792	792	792	792
PK	797	797	797	797	797	797	797	797	797	797	797	797	797	796	796	796	796	795	796	796	796	796	797	797	797	797
MN	783	783	784	784	784	784	783	783	783	783	783	783	782	782	782	782	782	782	783	783	784	784	785	785	785	797

PRECIPITATION
CM*100

CB-TRACT
TRAILER AB23
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

		HOUR (LOCAL STANDARD TIME)																										
		DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TL	PEAK
											(MT)	(MT)																
1																											()	()
2																											()	()
3																									8		8	8
4																											()	()
5																											()	()
6																											()	()
7																											()	()
8																						12					18	12
9																											15	12
10																											()	()
11																											()	()
12																							5	5	5		5	15
13																											107	57
14																											5	5
15																						5					3	3
16																											()	()
17																											()	()
18																											()	()
19																											()	()
20																											()	()
21																											()	()
22																											()	()
23																											()	()
24																											()	()
25										2	3																5	3
26																											()	()
27																											23	12
28																											105	29
29									20	18					70	70											140	70
30																											38	20
																											()	()
4	TL	57	75	()	()	()	()	()	20	20	3	()	()	()	82	70	12	()	()	37	36	46	5	5	13	()	()	70
5	PK	57	50	50				20	18	3					70	70	6			25	25	29	5	5	8			

PRECIPITATION
CM*100

CB TRACT
MRI AD28
JUNE 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOURLY (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TOTAL
1																									8
2																									13
3																									5
4																									5
5																									8
6			3																						71
7					3		3																		8
8																									13
9																									5
10																									5
11																									5
12																									5
13																									5
14																									5
15																									5
16																									5
17																									5
18																									5
19																									5
20																									5
21																									5
22																									5
23																									5
24																									5
25																									5
26																									5
27																									5
28																									5
29																									5
30																									5

IL 3 30 5 5 5 5 3 3 13 28 5 56 48 58 36 61 132 84 109 36 13 15 3 747

STABILITY CLASS USING DT/0Z
DT 60-10M
WS 10M

CB-TRACT
TRAILER AA23
JUNE 1983
OCCIDENTAL OIL SHALE, INC.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE
1	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
2	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
3	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
4	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
5	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
6	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
7	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
8	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
9	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
10	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
11	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
12	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
13	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
14	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
15	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
16	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
17	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
18	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
19	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
20	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
21	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
22	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
23	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
24	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
25	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
26	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
27	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
28	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
29	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
30	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	B	B	C	D	E	E	E	E	E	D
AVE	E	E	E	E	E	E	E	D	C	C	B	B	C	C	C	C	C	C	C	D	E	E	E	E	D

TOTAL OCCURRENCES: A= 65 B=114 C= 55 D=145 F=172 F=160 HOURS MISSING= 5

NITRIC OXIDE (NO)

CATHEDRAL BLUFFS SHALE OIL

TRAILER AB23 PERIOD(6/01/83 TO 6/30/83)

CONCENTRATION MAX UG/M ³	N		NE		ENE		E		ESE		SE		SSE		S		SSW		SW		WSW		W		WNW		NW		NNW		CALM		TOTAL	
	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1

GT 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60. - 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55. - 60. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50. - 55. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45. - 50. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40. - 45. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35. - 40. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30. - 35. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25. - 30. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20. - 25. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15. - 20. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10. - 15. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. - 10. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT 5. :	29	13	18	13	36	41	46	51	51	149	96	34	18	26	51	30	5	707															
TOTAL :	29	13	18	13	36	41	46	51	51	149	96	34	18	26	51	30	5	707															
MEAN CONC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

OXIDES OF NITROGEN (NOX)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(6/01/83 TO 6/30/83)

TRAILER AR23

CONCENTRATION MAX UG/M ³	WIND DIRECTION										W				NW				CALM				TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	NW	NNW	CALM	CALM	CALM	CALM	
GT 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60. - 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55. - 60. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50. - 55. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45. - 50. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40. - 45. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35. - 40. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30. - 35. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25. - 30. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20. - 25. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15. - 20. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10. - 15. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. - 10. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT 5. :	29	13	18	13	36	41	46	51	51	149	96	34	18	26	51	30	5	30	5	707			
TOTAL :	29	13	18	13	36	41	46	51	51	149	96	34	18	26	51	30	5	30	5	707			
MEAN CONC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0 = NO OBSERVATIONS

11 1 218

(10/19/83-RPI)

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

NITROGEN DIOXIDE (NO2)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(6/01/83 TO 6/30/83)

TRAILER AR23

CONCENTRATION MAX UG/M ³	N		NE		E		SE		SSE		SSW		SW		WSW		W		WNW		NW		NNW		CALM		TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	SSE	SSE	SSW	SSW	SW	SW	WSW	WSW	W	W	WNW	WNW	NW	NW	NNW	NNW	CALM	CALM	
GT 65. :	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	
60. - 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
55. - 60. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
50. - 55. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
45. - 50. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
40. - 45. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
35. - 40. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30. - 35. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25. - 30. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20. - 25. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15. - 20. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10. - 15. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5. - 10. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
LT 5. :	29	13	18	13	36	41	46	51	51	51	149	96	34	18	26	51	30	5	707								
TOTAL :	29	13	18	13	36	41	46	51	51	51	149	96	34	18	26	51	30	5	707								
MEAN CONC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

OZONE (03)

CATHEDRAL BLUFFS SHALE OIL

TRAILER AB23 PERIOD(6/01/83 TO 6/30/83)

CONCENTRATION MAX UG/Ms3	N		NE		E		ESE		SE		SSE		WIND DIRECTION				W		WNW		NW		NNW		CALM		TOTAL
	109	105	121	109	101	107	135	115	111	131	121	117	117	119	119	119	119	119	119	119	82						
GT 140. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
130. - 140. :	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
120. - 130. :	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
110. - 120. :	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	4	1	0	0	0	0	0	0	0	0	13	
100. - 110. :	4	1	0	1	1	1	0	1	1	7	15	3	0	1	0	3	0	0	3	0	0	0	0	0	0	39	
90. - 100. :	2	1	2	1	0	0	3	6	1	37	12	6	4	2	7	4	0	0	0	0	0	0	0	0	0	88	
80. - 90. :	10	4	3	5	3	4	10	6	17	34	22	10	6	9	19	9	1	1	0	0	0	0	0	0	0	172	
70. - 80. :	10	3	6	3	6	13	12	5	11	30	19	5	2	5	12	10	0	0	0	0	0	0	0	0	0	152	
60. - 70. :	3	2	2	3	17	13	10	23	11	17	13	4	4	4	7	3	1	1	0	0	0	0	0	0	0	137	
50. - 60. :	0	2	1	1	5	5	9	3	8	16	9	3	1	2	0	1	1	1	0	0	0	0	0	0	0	67	
40. - 50. :	1	1	3	1	4	4	1	3	1	5	4	0	0	0	2	1	0	0	0	0	0	0	0	0	0	31	
30. - 40. :	0	0	0	0	0	1	1	2	0	1	1	3	0	0	2	0	2	0	0	0	0	0	0	0	0	13	
20. - 30. :	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
LT 20. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL :	30	14	18	15	37	41	47	50	51	150	97	35	18	25	53	32	5	718									
PERCENT	4.	2.	3.	2.	5.	6.	7.	7.	7.	21.	14.	5.	3.	3.	7.	4.	1.	100.									

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CARRON MONOXIDE (CO)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(6/01/83 TO 6/30/83)

TRAILER AR23

CONCENTRATION MAX UG/4**3	N		NE		ENE		E		ESE		SE		SSE		WIND DIRECTION SSW		SW		WSW		W		WNW		NW		NNW		CALM		TOTAL
	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	

CONCENTRATION		80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
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0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

SULFUR DIOXIDE (SO2)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(6/01/83 TO 6/30/83)

TRAILER AB23

CONCENTRATION MAX UG/M ³	N		NE		E		SE		SSE		WIND DIRECTION S SSW		SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
	7	2	5	2	7	2	2	2	5	2	5	5	5	2	81	26	7	165	2	
GT 13. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	3
12. - 13. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11. - 12. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10. - 11. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9. - 10. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8. - 9. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. - 8. :	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	4
6. - 7. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. - 6. :	0	0	1	0	1	0	0	0	2	0	11	4	0	2	1	2	0	0	0	24
4. - 5. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. - 4. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. - 3. :	5	1	4	5	9	7	10	7	8	42	27	5	2	7	13	8	1	161		
1. - 2. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT 1. :	22	12	13	8	26	34	36	42	43	97	65	29	13	15	35	20	4	514		
TOTAL :	24	13	18	13	37	41	46	51	51	150	96	34	18	24	51	30	5	706		
MEAN CONC.	0	0	0	1	0	0	0	0	0	1	0	0	0	0	5	2	1	6	0	1

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

HYDROGEN SULFIDE (H₂S)

CATHEDRAL BLUFFS SHALE OIL

[illegible]

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

10 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(6/01/83 TO 6/30/83)

WIND SPEED MAX METERS/SEC	WIND DIRECTION																TOTAL	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		VAR
4	5	4	4	4	4	4	5	6	8	8	8	7	5	6	6	5	0	
.....																		
GT 11. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8. - 11. :	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	2
5. - 8. :	0	1	0	0	0	0	1	6	50	16	5	1	3	4	1	0	0	88
3. - 5. :	5	0	1	1	1	2	3	16	17	44	22	7	5	5	8	13	0	150
1. - 3. :	15	5	7	7	24	27	29	22	15	32	38	14	6	10	31	13	0	295
LT 1. :	10	8	10	7	12	12	15	12	13	23	20	9	6	8	10	5	0	180
TOTAL :	30	14	18	15	37	41	47	51	51	150	97	35	18	26	53	32	0	715
.....																		
PERCENT	4.	2.	3.	2.	5.	6.	7.	7.	7.	21.	14.	5.	3.	4.	7.	4.	0.	100.

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

30 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(6/01/83 TO 6/30/83)

WIND DIRECTION

WIND SPEED MAX METERS/SEC	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VAR	TOTAL
6	7	5	5	6	6	7	9	12	10	11	10	7	8	8	7	0		
GT 11. :	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
8. - 11. :	0	0	0	0	0	0	0	1	6	38	11	2	0	5	1	0	0	64
5. - 8. :	1	1	1	1	2	3	16	26	37	21	7	4	4	5	6	0	0	136
3. - 5. :	2	3	0	2	1	11	15	14	14	28	14	7	5	5	17	15	0	153
1. - 3. :	14	3	7	8	22	30	22	13	8	15	21	13	14	11	24	12	0	237
LT 1. :	8	7	3	5	10	10	14	7	8	10	5	17	4	4	6	4	0	122
TOTAL :	25	14	11	16	34	53	54	51	63	128	73	46	27	29	53	37	0	714
PERCENT	4.	2.	2.	2.	5.	7.	8.	7.	9.	18.	10.	6.	4.	4.	7.	5.	0.	100.

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

6.0 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(6/01/83 TO 6/30/83)

WIND SPEED MAX METERS/SEC	WIND DIRECTION																	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VAR	
6	7	5	5	7	6	8	10	12	11	12	11	7	9	9	9	7	0	
.....																		
GT 11. :	0	0	0	0	0	0	0	1	4	1	1	1	0	0	0	0	0 :	7
8. - 11. :	0	0	0	0	0	0	2	9	20	53	13	4	0	4	3	0	0 :	108
5. - 8. :	1	1	1	1	4	4	12	19	37	20	5	5	5	4	12	0	0 :	132
3. - 5. :	3	2	3	2	5	16	14	8	21	14	9	11	3	20	13	0	0 :	146
1. - 3. :	13	7	6	7	14	17	28	22	11	11	10	12	17	17	21	11	0 :	224
LT 1. :	7	5	3	6	9	5	7	4	6	4	7	10	9	6	7	2	0 :	97
TOTAL :	24	15	13	16	26	31	57	61	65	130	65	41	42	35	55	38	0	714
.....																		
PERCENT	3.	2.	2.	2.	4.	4.	8.	9.	9.	18.	9.	6.	6.	5.	8.	5.	0.	100.

0 = NO OBSERVATIONS

FIVE MAXIMUM SLIDING AVERAGE
UG/M**3

C-B TRACT
SITE AB23
JUNE 1983
CATHEDRAL

BLUFFS SHALE OIL CO.

COMPONENT	AVG. TIME	RANK	DAY	HOUR (BEG)	VALUE
S02	3 HR	1	14	16	6:1
		2	28	17	6:1
		3	28	17	6:1
		4	28	14	5:2
		5	28	20	5:2
S02	24 HR	1	28	14	4:7
		2	29	14	2:6
		3	10	15	2:1
		4	25	9	1:9
		5	13	22	1:5
C0	1 HR	1	24	16	80:0
		2	44	18	80:0
		3	24	19	80:0
		4	24	20	80:0
		5	24	21	80:0
C0	8 HR	1	24	18	80:0
		2	25	20	80:0
		3	25	10	80:0
		4	25	18	80:0
		5	26	2	80:0
03	1 HR	1	2	16	135:4
		2	2	15	131:5
		3	2	17	131:6
		4	30	13	131:6
		5	30	14	131:6
PART	24 HR	1	23	1	27:2
		2	19	1	24:2
		3	27	1	13:4
		4	15	1	12:3
		5	17	1	19:9

DATA ACQUISITION INSTRUMENT EFFICIENCY
CATHEDRAL BLUFFS SHALE OIL COMPANY
A.Q. TRAILER A823

JUNE 1983

GASEOUS
PARAMETERS

NOX: 100 %

NO: 100

NO2: 100

O3: 100

CO: 100

SO2: 100

H2S: 100

PARTICULATES: 86 %

METEOROLOGICAL
PARAMETERS

WIND SPEED

10 M: 100 %

30 M: 100

60 M: 100

WIND DIRECTION

10 M: 100

30 M: 100

60 M: 100

SIGMA HORIZONTAL

WIND DIRECTION

10 M: 100

30 M: 100

60 M: 100

TEMPERATURE

10 M: 100

30 M: 100

60 M: 100

DELTA TEMPERATURE: 100

RELATIVE HUMIDITY: 100

SOLAR RADIATION: 98

BAROMETRIC PRESSURE: 100

PRECIPITATION: 100

JULY

LIST OF TABLES

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 DIURNAL VARIATION OF GASEOUS AND PARTICULATE MATTER	
Nitric Oxide (NO) at Station AB23II-231
Oxides of Nitrogen (NO _x) at Station AB23 . . . . .	.II-232
Nitrogen Dioxide (NO ₂) at Station AB23 . . . . .	.II-233
Ozone (O ₃) at Station AB23 . . . . .	.II-234
Carbon Monoxide (CO) at Station AB23 . . . . .	.II-235
Sulfur Dioxide (SO ₂) at Station AB23 . . . . .	.II-236
Hydrogen Sulfide (H ₂ S) at Station AB23 . . . . .	.II-237
Particulates Daily Average at Station AB23. . . . .	.II-238
 DIURNAL VARIATION OF METEOROLOGICAL PARAMETERS	
Wind Speed at Station AA23 - 10 Meter Level . . . . .	.II-239
Wind Speed at Station AA23 - 30 Meter Level . . . . .	.II-240
Wind Speed at Station AA23 - 60 Meter Level . . . . .	.II-241
Wind Direction at Station AA23 - 10 Meter Level . . . . .	.II-242
Wind Direction at Station AA23 - 30 Meter Level . . . . .	.II-243
Wind Direction at Station AA23 - 60 Meter Level . . . . .	.II-244
Wind Direction and Vector Average at Station AA23 - 10 Meter Level . . . . .	.II-245
Wind Direction and Vector Average at Station AA23 - 30 Meter Level . . . . .	.II-246
Wind Direction and Vector Average at Station AA23 - 60 Meter Level . . . . .	.II-247
Sigma Horizontal Wind Direction at Station AA23 - 10 Meter Level . . . . .	.II-248
Sigma Horizontal Wind Direction at Station AA23 - 30 Meter Level . . . . .	.II-249
Sigma Horizontal Wind Direction at Station AA23 - 60 Meter Level . . . . .	.II-250
Ambient Air Temperature at Station AA23 - 10 Meter Level. . .	.II-251
Ambient Air Temperature at Station AA23 - 30 Meter Level. . .	.II-252
Ambient Air Temperature at Station AA23 - 60 Meter Level. . .	.II-253
Delta Temperature (60m - 10m) at Station AA23 . . . . .	.II-254
Relative Humidity at Station AB23 - 3 Meter Level . . . . .	.II-255
Solar Radiation at Station AB23 . . . . .	.II-256
Barometric Pressure at Station AB23 . . . . .	.II-257
Precipitation at Station AB23 . . . . .	.II-258
Precipitation at Station AD28 . . . . .	.II-259
Pasquill-Gifford Stability Class using DT/DZ (60m - 10m) at Station AA23 . . . . .	.II-260

LIST OF TABLES (Contd)

NUMBER OF 1-HOUR SAMPLES OF GASEOUS PARAMETERS BY CONCENTRATION AND WIND DIRECTION

Page

Nitric Oxide (NO) at Station AB23 . . . . .	.II-261
Oxides of Nitrogen (NO _x) at Station AB23. . . . .	.II-262
Nitrogen Dioxide (NO ₂) at Station AB23. . . . .	.II-263
Ozone (O ₃) at Station AB23. . . . .	.II-264
Carbon Monoxide (CO) at Station AB23. . . . .	.II-265
Sulfur Dioxide (SO ₂) at Station AB23. . . . .	.II-266
Hydrogen Sulfide (H ₂ S) at Station AB23. . . . .	.II-267

SUMMARY REPORT: FREQUENCY TABLE OF WIND SPEED BY DIRECTION

Station AA23 - 10 Meter Level . . . . .	.II-268
Station AA23 - 30 Meter Level . . . . .	.II-269
Station AA23 - 60 Meter Level . . . . .	.II-270

FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES, STATION AB23

DATA ACQUISITION INSTRUMENT EFFICIENCY, STATION AB23.

NITRIC OXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

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23
24
AVE
PK

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2	0	1	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	1	0	0	1	2	0	1
3	0	0	0	1	1	1	1	1	0	1	0	1	0	0	1	0	1	0	0	1	1	0	1	1	1	2
4	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	0	1	0	0	0	1	1	0	1	1	1
5	1	0	0	0	1	0	1	1	0	1	1	0	(CA)	(CA)	(CA)	2	1	1	1	1	1	1	0	2	1	1
6	1	0	0	1	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	0	1	1	2	1	2
7	1	0	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1
8	0	1	0	1	0	1	0	0	1	0	1	1	1	1	1	0	0	0	0	1	1	0	0	2	1	1
9	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0	1	0	0	0	1	1	1	1	1
10	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0	1	0	0	0	0	1	1	1	1
11	0	0	1	1	1	1	1	1	1	0	0	1	1	0	0	0	0	0	0	1	0	0	1	1	1	1
12	0	1	1	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	1	1	1
13	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	1
14	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1
15	0	1	0	0	1	0	1	0	0	1	1	1	1	0	0	0	0	1	0	0	0	0	1	1	0	1
16	0	1	0	1	1	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0	1
17	0	1	0	0	0	0	1	1	0	1	0	1	1	0	0	0	0	0	0	1	0	0	1	2	0	2
18	0	1	1	1	0	0	0	1	0	1	0	1	0	0	1	0	0	1	0	1	0	0	1	1	0	1
19	0	1	1	0	0	0	1	0	(CA)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	0	0	0	0	2	0	2
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	0	0	0	0	1	1	1
21	0	0	1	1	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	2	1	2
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	1	0	1	1	1	1	1
23	0	1	1	1	1	0	1	1	1	1	0	0	1	1	1	1	1	1	0	0	1	0	0	2	1	2
24	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1
25	1	1	1	1	0	0	1	1	0	0	0	0	1	1	1	1	1	0	1	1	1	1	0	2	1	2
26	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
27	0	0	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1
28	0	1	1	0	1	0	1	0	1	1	0	1	0	0	1	1	0	0	0	1	0	1	0	1	1	1
29	0	0	1	1	0	1	0	1	0	0	0	0	1	1	0	1	1	1	1	1	0	0	1	1	1	1
30	0	0	1	0	0	0	0	1	0	1	1	1	1	1	0	1	1	1	0	1	0	0	1	1	1	1
31	1	0	0	0	0	0	1	1	1	1	1	0	1	0	0	1	1	0	1	1	1	0	0	1	1	1
AV	0	1	1	0	1	0	1	1	0	1	1	1	1	1	0	1	1	1	0	0	0	1	0	2	1	2
PK	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2

OXIDES OF NITROGEN
(UG/M3)

CB-TRACT
TRAILER AR23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	HOUR (LOCAL STANDARD TIME)																								AVE PEAK
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5	0	0	0	0	0	0	0	0	0	0	0	0	(CA)	(CA)	(CA)	0	0	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	2	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	2	0	2	2	2	2	0	0	0	0	0	0	0	0	0	2	0	0	0	2
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
19	2	0	0	2	2	0	2	0	(CA)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	0	0	0	0	0	2
21	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	2	2	2	4	2	0	1
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	0	2	2	2	0	0	4
23	2	2	2	0	2	0	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	2	1
24	2	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
25	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
27	2	0	0	2	0	0	0	2	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1
28	2	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
29	2	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
30	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
31	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4
AV	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PK	2	2	2	2	2	2	4	2	2	2	2	2	0	2	2	2	2	0	2	2	2	4	2	2	4

NITROGEN DIOXIDE
(UG/M3)

CB-TRACT
THAILER AR23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5	0	0	0	0	0	0	0	0	0	0	0	0	(CA)	(CA)	(CA)	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
11	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	2	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	0	0	0	0	0	0	2
21	(PF)	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	2	2	0	0	0
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	0	2	0	2	0	0	0	0
23	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
24	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
25	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
27	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
28	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
29	2	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
31	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
AV	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PK	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

OZONE
(UG/H3)

CB-TRACT
TRAILER AR23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK		
1	65	74	69	69	65	65	67	69	74	76	76	78	82	82	80	78	80	82	74	69	63	69	71	71	73	82		
2	69	71	71	69	69	76	74	73	71	71	78	80	80	80	80	82	76	76	69	61	51	43	41	45	69	82		
3	41	35	25	24	24	24	25	49	59	63	67	74	80	86	92	92	94	90	94	92	86	78	74	76	64	94		
4	73	73	69	73	69	63	59	69	69	73	84	86	96	106	102	108	108	106	100	96	74	82	86	82	83	108		
5	78	78	82	84	78	80	71	73	86	84	94	102	98	90	84	86	86	86	80	74	67	65	71	81	102			
6	78	71	74	71	71	69	63	63	63	(14)	(14)	(14)	(14)	84	82	82	78	71	69	73	53	57	63	57	70	84		
7	45	47	37	41	49	47	47	51	61	71	74	76	74	78	78	78	80	73	67	65	57	67	71	62	80			
8	61	65	61	57	53	59	57	71	74	80	80	80	80	78	78	80	80	80	80	69	59	63	69	76	70	80		
9	80	78	71	65	67	63	63	69	69	74	80	78	78	78	76	80	88	86	84	88	88	84	80	78	75	88		
10	67	61	65	61	59	61	69	69	69	74	80	78	78	78	76	80	88	86	84	88	88	84	80	78	75	88		
11	67	61	55	49	47	43	45	49	59	65	69	73	94	108	118	112	104	96	86	76	74	76	74	76	84	98		
12	78	80	82	84	88	88	67	76	86	88	90	88	92	90	90	96	96	96	82	73	71	69	73	69	82	102		
13	71	74	69	78	76	73	69	69	73	94	102	100	100	96	94	96	96	86	84	73	73	86	78	80	77	88		
14	71	74	69	78	76	73	53	57	80	80	82	84	86	80	84	88	86	84	82	84	80	87	65	63	87	110		
15	82	84	86	80	80	80	80	84	90	100	106	108	110	104	106	104	85	84	82	84	80	87	65	63	87	110		
16	57	65	63	59	53	59	59	73	82	82	84	86	88	92	94	94	94	92	88	82	69	69	69	65	75	94		
17	65	65	65	63	65	67	69	78	84	88	88	86	86	86	82	84	86	86	80	73	67	69	71	76	76	88		
18	80	80	76	73	69	67	65	69	76	80	82	84	86	88	88	88	88	88	82	71	69	69	69	71	77	88		
19	59	63	63	61	59	55	55	55	(CA)	()	73	73	71	76	80	80	80	82	78	61	61	63	65	67	67	82		
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	78	73	65	61	65	67	78		
21	61	61	57	53	57	51	53	55	67	71	73	78	78	80	80	73	67	67	63	47	33	43	47	43	41	52	71	
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	73	61	47	43	41	39	53	()	73
23	39	41	37	39	47	35	35	43	61	65	63	61	61	55	65	65	71	69	61	51	43	47	43	41	52	71	71	
24	41	43	45	43	41	41	35	55	74	74	74	73	69	65	69	71	74	76	73	59	47	53	59	61	59	76	76	
25	57	55	55	63	57	47	47	55	65	69	71	69	73	80	80	82	80	76	71	67	67	61	61	61	66	82	82	
26	65	63	59	57	67	61	49	51	63	63	63	59	57	49	61	65	65	65	61	59	53	49	45	35	46	57	57	
27	41	43	41	41	43	41	43	49	53	55	57	57	53	53	57	49	49	45	41	39	35	35	35	35	46	57	57	
28	35	39	35	33	33	33	29	47	63	65	61	61	69	76	65	61	63	63	69	61	57	57	57	53	53	76	76	
29	55	67	63	65	63	61	51	51	59	65	71	71	73	74	78	78	74	73	71	57	57	59	57	53	64	78		
30	49	55	51	53	49	51	43	51	59	65	67	71	71	73	71	67	63	59	43	49	61	59	59	51	58	73	73	
31	55	55	49	51	53	57	51	59	65	74	82	78	84	94	98	90	84	78	69	49	57	53	61	53	67	98	98	
AV	61	63	60	60	59	58	55	61	70	75	77	78	80	81	82	82	82	80	75	68	63	62	63	63	69		118	
PK	62	64	86	84	84	88	80	84	90	100	106	108	110	106	108	118	112	106	100	96	88	86	86	84		118		

CARBON MONOXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK	
1	30	20	20	20	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	20	20	20	31	30	
2	20	20	20	20	20	30	30	20	20	20	20	30	20	20	20	20	20	20	30	30	30	30	30	30	27	30	
3	30	30	30	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	37	50	
4	30	30	30	30	30	30	30	30	30	30	30	30	20	20	20	20	20	20	20	20	20	20	20	20	29	30	
5	20	30	30	30	30	30	30	20	10	10	0	(CA)	(CA)	(CA)	(CA)	(CA)	20	30	30	30	30	30	30	30	24	30	
6	30	30	30	30	30	30	30	30	30	10	10	10	0	20	30	30	30	50	50	50	50	50	50	50	33	50	
7	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	46	50	
8	20	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	46	50	
9	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	46	50	
10	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	52	60	
11	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	49	60	
12	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	46	70	
13	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	46	70	
14	30	30	30	30	30	30	60	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	31	50	
15	30	30	30	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	38	60	
16	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	42	50	
17	50	30	30	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	41	50	
18	50	30	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	37	50	
19	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	31	50	
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	60	60	60	60	39	60	
21	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	70	70	70	70	61	70	
23	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	69	70	
24	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	68	70	
25	60	60	60	60	60	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	67	70	
26	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	69	70	
27	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	69	70	
28	70	70	70	70	70	70	70	140	70	70	70	70	70	60	70	70	70	70	70	70	70	60	70	70	71	140	70
29	60	70	60	60	60	60	70	70	70	70	70	70	60	60	60	60	60	60	60	60	70	60	60	60	63	70	
30	70	70	60	60	60	60	60	60	60	60	60	60	60	60	60	60	70	70	70	70	70	60	60	60	60	70	
31	60	60	60	60	60	60	70	70	60	70	60	70	70	70	60	60	70	70	70	70	70	70	70	70	65	70	
AV	49	48	48	48	48	49	52	54	46	46	45	46	46	46	46	46	46	48	48	49	49	47	48	48	47		
PK	70	70	70	70	70	70	70	140	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	140		

SULFUR DIOXIDE
(UG/M3)

CH-TRACT
TRAILER 4823
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK		
1	3	3	3	3	3	3	0	3	3	3	3	0	3	3	3	3	3	3	3	0	0	0	0	0	2	3		
2	0	3	3	0	0	3	0	0	3	0	0	3	3	0	0	0	0	3	0	0	0	0	0	0	0	1	3	
3	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	0	1	3	
4	3	0	0	0	0	0	0	0	3	0	3	(CA)	3	(CA)	3	3	3	3	0	0	0	0	0	0	2	5	5	
5	0	0	0	3	0	0	0	0	5	0	5	3	3	3	3	3	3	0	3	3	3	3	3	3	1	5	5	
6	3	0	0	0	3	0	0	0	3	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	1	5	
7	0	0	3	0	0	0	0	3	0	0	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	1	3	
8	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
9	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	
10	0	0	3	0	0	0	0	0	0	0	0	0	3	0	0	3	3	3	3	3	3	3	3	3	0	1	3	
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	
12	0	3	0	0	0	0	0	0	3	0	3	0	3	0	0	3	3	3	3	0	3	0	0	0	1	5	5	
13	3	3	5	5	5	3	3	5	3	5	3	5	5	5	5	5	3	5	5	5	5	5	5	5	4	5		
14	3	5	5	5	5	3	3	5	5	3	5	3	3	3	5	3	3	3	5	3	3	3	3	3	3	3	5	
15	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	3	3	3	3	2	5	
16	3	3	3	0	0	3	3	3	3	3	3	3	3	3	3	3	3	5	3	3	3	3	3	3	3	3	5	
17	0	3	5	3	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	5	4	8	
18	3	5	3	3	5	3	3	5	(CA)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	5	3	0	3	3	3	3	5	4	8
19	0	5	3	3	5	3	3	5	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	3	0	3	3	3	3	0	3	5	
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	5	3	3	5	3	5	3	3	5	
21	3	3	3	3	3	0	3	3	0	0	3	5	5	5	3	5	3	3	0	3	3	3	3	3	0	2	5	
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	5	3	3	3	3	3	3	3	5	
23	5	3	5	3	3	3	5	3	3	5	3	3	3	3	5	5	5	3	5	3	5	3	5	5	4	5	5	
24	3	3	5	3	3	5	3	3	5	5	3	5	5	5	5	5	5	3	5	3	3	3	3	5	5	4	8	
25	5	3	3	5	5	5	3	5	5	5	5	3	5	8	5	5	5	3	5	3	3	3	3	5	5	4	8	
26	5	5	5	5	5	5	5	8	8	5	8	8	8	8	5	8	8	8	8	5	5	5	5	5	6	10	8	
27	8	5	5	5	5	5	5	16	5	5	5	5	5	8	8	8	8	8	8	5	8	5	5	5	3	6	10	
28	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	8	8	8	5	8	5	5	5	6	10	
29	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	3	3	3	3	3	3	0	4	8	
30	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	3	0	0	3	5	5	5	4	5	
31	5	3	3	3	3	3	5	5	5	3	5	5	3	5	5	5	3	3	3	0	0	3	5	5	5	4	5	
AV	3	3	3	3	3	2	2	3	3	3	4	3	4	4	4	4	4	3	4	3	2	3	2	3	3	3	16	
PK	8	8	5	8	8	8	5	16	8	5	10	8	8	10	8	8	8	8	8	8	8	8	5	8	8	8		

HYDROGEN SULFIDE
(UG/M3)

CR-TRACT
TRAILER AB23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)
21	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)
23	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AV	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
PK	3	3	3	3	3	3	3	4	4	6	6	6	6	6	6	6	6	6	6	6	4	4	4	3	3	6

PARTICULATE DATA
UG/M3

C-B TRACT
JULY 1983
OCCIDENTAL OIL SHALE, INC.

DAY	AH20	AB23	STATION AR26	AD42	AD56
1	()	19.2	()	()	()
5	()	34.3	()	()	()
9	()	17.7	()	()	()
13	()	25.4	()	()	()
17	()	26	()	()	()
21	()	20.1	()	()	()
25	()	18.6	()	()	()
29	()	18.2	()	()	()
AVE	()	22.4	()	()	()
GM	()	21.9	()	()	()
PEAK	()	34.3	()	()	()

WIND SPEED @ 10M
METERS/SEC

CH-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

MOON (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	1	2	1	1	1	3	5	5	5	5	5	6	6	7	6	5	5	4	4	3	3	4	3	3	4	7
2	4	3	2	3	3	4	5	6	7	7	8	7	7	7	7	6	6	5	4	3	2	2	1	3	5	8
3	3	2	1	1	1	0	0	1	1	4	5	6	7	6	6	1	1	5	5	4	2	2	0	1	3	5
4	(CM)	1	(CM)	(CM)	1	0	(CM)	1	1	1	1	1	2	1	1	1	1	2	2	1	0	0	0	(CM)	1	2
5	0	1	0	0	1	0	3	1	1	1	3	4	4	5	3	1	2	2	1	4	0	3	6	1	1	4
6	0	2	1	2	2	0	3	2	2	3	3	4	6	5	4	4	4	3	4	3	0	2	2	0	3	6
7	2	2	1	2	2	0	1	2	3	4	4	4	4	5	4	4	4	2	1	2	2	2	4	2	3	7
8	4	2	2	1	3	2	2	2	4	4	5	4	5	5	5	4	4	3	3	4	2	2	4	2	3	7
9	4	2	0	0	1	3	2	2	5	4	5	4	7	7	7	6	5	4	5	4	4	3	3	2	4	6
10	1	2	3	3	3	2	1	2	1	1	1	2	2	2	1	6	4	3	5	4	3	3	2	2	2	6
11	1	0	(CM)	0	1	(CM)	1	1	2	1	3	2	1	1	2	2	2	2	2	2	0	1	0	(CM)	1	3
12	0	1	1	0	1	0	(CM)	0	1	2	1	2	1	2	3	2	3	2	2	4	0	1	1	1	1	3
13	0	1	1	0	1	1	0	1	1	0	1	4	5	5	7	3	3	2	2	4	4	4	1	0	4	7
14	1	1	1	0	1	1	1	1	1	4	5	4	5	5	7	8	5	5	4	4	3	4	4	4	3	7
15	5	5	6	0	6	1	6	6	5	6	5	7	8	9	9	6	4	5	5	4	3	2	2	1	5	9
16	2	0	0	0	1	1	1	1	4	5	5	6	7	6	7	5	5	6	4	4	3	2	1	3	4	7
17	3	4	4	4	4	2	3	4	6	7	7	7	7	6	6	4	3	5	4	4	3	2	1	3	4	7
18	3	2	1	3	1	3	2	4	(MT)	(MT)	(MT)	(MT)	5	4	3	3	3	3	3	2	2	1	6	6	2	5
19	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	1	0	2	5
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	1	1	(	4
21	0	1	1	0	1	1	0	0	1	2	2	1	2	2	1	3	2	5	3	1	1	1	1	1	2	5
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	0	0	0	3	3	1	1	(	2
23	1	1	0	1	1	1	1	1	3	2	4	4	3	3	4	5	5	3	2	0	1	3	1	1	2	5
24	2	2	2	2	2	1	1	1	1	2	0	1	1	3	3	1	1	1	1	2	2	(CH)	0	0	1	3
25	1	1	1	1	1	1	2	2	4	4	4	3	3	4	4	5	4	7	2	3	4	2	2	0	3	7
26	1	1	1	1	1	1	1	0	2	4	3	3	2	2	3	4	5	4	3	4	4	1	2	2	5	6
27	2	2	2	2	2	2	3	3	3	3	6	4	4	4	3	2	3	3	3	2	2	1	2	2	3	3
28	2	2	1	2	2	2	1	1	1	2	1	1	2	1	3	2	0	1	2	2	2	(CH)	0	1	2	3
29	4	2	2	2	2	2	1	1	1	1	2	1	1	3	2	2	0	1	1	1	4	4	3	1	2	4
30	3	4	2	1	2	1	1	2	2	0	1	1	2	1	1	4	2	2	2	4	5	4	3	2	2	5
31	2	3	3	3	3	3	2	3	2	3	4	3	3	2	3	3	3	2	1	0	1	2	1	1	2	4
AV	2	2	2	2	2	2	2	2	3	3	3	3	4	4	4	4	3	3	3	3	3	2	2	2	3	9
PK	5	5	6	5	6	6	6	6	7	7	8	7	8	8	9	8	6	7	5	4	5	4	6	7	3	9

WIND SPEED @ 30M
METERS/SEC

CB-TRACT
TRAILER A423
JULY 1953
CATHEDRAL BLUFFS SHALE OIL CO.

HOOR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	2	4	2	3	4	6	8	8	8	7	7	8	8	9	8	7	7	7	5	5	6	7	6	6	6	9
2	6	5	4	4	7	8	8	8	10	10	10	9	9	9	9	8	8	9	6	5	3	2	2	2	4	7
3	3	1	2	1	2	1	0	2	1	4	6	7	8	8	8	8	8	8	8	8	3	3	0	0	0	10
4	1	3	2	1	1	0	0	1	1	2	2	2	2	2	2	2	2	2	2	3	0	0	(CM)	0	1	9
5	(CM)	1	0	1	1	1	1	1	1	1	0	3	3	3	3	4	3	3	3	5	4	0	1	2	2	6
6	0	1	1	3	4	5	4	3	2	4	4	4	8	8	6	5	6	6	3	2	5	1	5	3	4	9
7	4	1	1	4	4	4	1	2	3	5	6	6	6	7	6	6	5	7	2	4	2	3	3	4	4	7
8	4	4	3	3	4	4	3	3	3	6	7	6	6	7	6	6	5	4	4	2	2	3	3	7	10	5
9	5	4	1	1	1	3	2	2	1	6	7	5	9	10	9	8	7	5	4	5	6	5	5	4	5	10
10	3	4	1	3	3	3	2	3	2	1	2	3	2	2	1	3	3	3	7	5	4	5	3	3	3	8
11	3	0	0	0	0	0	0	1	1	2	4	3	2	2	3	2	1	3	3	3	1	0	0	0	2	4
12	0	1	1	1	1	1	1	1	1	1	1	2	2	2	4	4	2	1	3	2	3	0	1	1	2	4
13	0	1	1	1	1	1	1	1	1	4	5	6	7	7	10	4	4	4	4	3	5	1	1	1	1	5
14	1	1	1	1	1	1	1	1	1	8	7	11	12	13	12	4	6	7	5	6	2	7	8	6	7	10
15	8	8	9	9	9	9	8	7	8	9	8	9	8	8	9	8	8	8	7	6	5	4	5	4	1	5
16	3	1	1	1	1	1	1	5	6	7	9	10	10	8	8	8	7	7	5	4	5	3	2	5	6	10
17	4	5	6	6	6	4	5	6	8	9	10	10	10	8	8	8	7	8	5	6	5	6	5	9	9	9
18	7	7	5	5	6	4	3	5	(MT)	(MT)	(MT)	(MT)	7	5	5	5	4	4	4	5	6	5	6	9	6	9
19	5	4	3	4	3	4	3	4	7	5	4	3	2	2	4	3	4	4	4	4	3	2	2	1	3	7
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	3	6	3	4	3	2	6
21	0	1	1	0	0	0	0	0	1	2	2	1	3	2	2	4	3	8	4	2	2	1	2	1	2	8
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	0	2	1	3	3	1	3	3	3
23	2	2	1	1	2	1	3	2	4	3	5	5	4	4	6	6	7	4	3	1	4	3	0	1	3	7
24	3	3	2	3	2	1	2	1	2	1	2	1	2	4	4	6	7	2	2	2	3	0	0	0	2	4
25	1	1	1	2	1	3	3	3	6	5	5	4	4	5	5	7	6	10	2	4	6	2	3	4	10	4
26	2	2	2	2	2	2	1	1	3	5	4	4	3	3	4	3	7	5	6	7	2	2	3	3	4	7
27	4	3	3	3	3	3	3	4	4	4	4	4	5	4	4	4	4	4	4	4	2	3	3	2	4	8
28	2	2	3	3	3	3	1	2	1	3	3	2	3	2	4	4	4	2	3	3	4	1	1	0	2	4
29	4	7	4	3	4	3	2	1	1	2	1	2	1	2	3	2	0	1	1	2	4	4	6	5	2	6
30	4	7	4	2	2	1	1	2	2	1	1	2	2	2	2	5	3	3	3	7	8	5	4	4	3	8
31	4	4	4	5	4	4	4	3	3	4	5	4	4	3	4	4	4	2	1	0	2	4	2	3	3	5
AV	3	3	2	3	3	3	3	3	4	4	4	5	5	5	5	5	5	5	4	4	4	3	3	3	4	13
PK	8	8	9	8	9	9	8	8	10	10	10	10	11	12	13	12	12	8	10	8	7	8	8	9	10	13

WIND SPEED @ 60M
METERS/SEC

CB-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK	
1	1	3	4	5	7	8	10	8	8	11	7	9	9	10	9	8	8	7	6	6	7	8	7	7	7	10	
2	7	6	6	7	8	10	9	12	11	11	11	10	10	10	10	9	9	10	6	5	5	4	2	2	5	8	
3	4	4	2	1	3	2	1	1	4	6	7	8	10	8	9	9	8	8	8	7	7	3	4	1	0	5	
4	2	1	1	1	1	1	1	1	1	2	2	2	3	3	4	4	4	2	4	4	1	1	0	0	2	7	
5	1	0	0	1	1	1	1	1	1	1	0	3	3	3	4	4	4	4	5	7	6	1	1	2	2	4	
6	2	1	2	2	4	4	4	3	3	5	4	5	8	8	6	5	6	4	3	6	1	5	11	4	4	11	
7	4	6	3	3	5	2	3	4	4	6	6	6	6	6	5	5	7	8	3	4	4	2	4	5	5	12	
8	5	4	4	3	1	4	4	4	4	6	7	6	7	7	7	6	6	5	4	3	2	3	8	12	8	12	
9	7	4	2	1	1	5	4	4	8	7	7	6	10	10	10	9	7	7	4	6	7	5	6	4	4	6	
10	6	4	2	4	4	4	3	2	1	2	2	3	3	2	1	8	6	4	7	6	5	5	4	4	4	8	
11	6	4	4	4	4	4	4	2	3	3	4	4	4	4	4	2	3	3	3	3	3	1	1	1	2	4	
12	0	0	1	1	0	0	1	(CH)	1	1	1	3	2	0	2	3	3	3	4	4	5	2	2	2	2	5	
13	0	2	1	0	1	2	1	1	4	5	5	7	6	8	11	5	4	4	3	3	3	5	2	1	2	5	
14	0	10	9	10	10	11	11	8	8	9	8	8	12	13	14	13	7	8	6	7	8	10	3	1	9	5	
15	11	10	9	10	10	11	11	6	6	8	9	9	10	9	10	9	8	8	5	5	5	5	4	3	6	10	
16	3	2	1	1	1	0	1	6	6	8	9	9	10	9	10	9	8	8	7	7	5	7	3	3	1	8	
17	6	6	6	7	6	5	6	7	8	10	11	11	10	8	9	8	8	5	5	5	6	8	10	11	6	11	
18	8	8	6	7	6	5	4	6	(MT)	(MT)	(MT)	(MT)	7	6	6	5	4	4	5	7	6	8	10	11	6	11	
19	5	5	4	6	4	5	4	4	8	5	5	3	2	2	4	4	4	4	4	4	3	3	4	3	4	8	
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	4	7	4	5	3	2	7	
21	1	2	1	1	0	0	(CH)	0	1	2	2	1	3	3	2	4	3	8	5	3	2	1	3	3	3	2	8
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	0	2	1	3	4	2	2	2	4	
23	3	3	1	1	2	2	4	3	4	3	5	6	5	5	6	4	7	5	4	1	5	5	2	3	3	7	
24	3	2	3	2	2	2	2	4	3	2	0	2	2	4	4	2	2	2	2	2	2	2	3	4	7	7	
25	1	(CH)	1	2	2	4	3	3	6	6	6	4	4	6	5	7	7	12	6	7	9	3	3	4	5	12	
26	3	2	3	3	3	3	1	2	3	5	4	4	4	3	5	7	7	12	6	7	9	3	3	4	4	9	
27	4	4	3	3	3	3	4	4	4	4	4	8	6	4	4	4	4	4	5	5	4	4	3	3	4	8	
28	2	1	2	2	2	3	2	2	4	4	3	2	2	1	4	3	2	0	1	1	2	4	8	6	5	3	
29	2	1	0	3	4	3	2	1	2	2	2	2	1	4	3	2	0	1	1	2	4	8	6	5	3	3	
30	4	7	5	4	3	1	1	3	3	1	1	2	3	2	2	5	4	4	4	4	9	6	6	5	4	9	
31	4	4	5	6	5	4	4	4	4	4	5	5	4	3	4	4	4	3	1	1	2	4	2	4	4	6	
AV	4	4	3	3	3	3	3	4	4	5	5	5	5	5	6	6	5	5	4	5	4	4	4	4	4	14	
PK	11	10	9	10	10	11	11	10	11	11	11	11	12	13	14	13	9	12	8	8	9	10	11	12	12	14	

WIND DIRECTION # 10M
DEGREES

CB-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	PREV
1	66	127	145	214	203	191	191	193	190	198	205	214	210	210	210	204	201	209	194	194	194	191	187	188	192
2	194	186	190	199	208	223	205	200	207	214	210	215	224	209	223	237	234	242	311	297	292	204	308	314	227
3	263	287	226	177	171	201	16	281	303	310	300	286	289	288	292	293	297	298	326	321	331	268	202	221	280
4	CM1	225	215	CM1	254	239	CM1	283	310	340	311	323	345	342	323	309	356	349	27	28	209	234	174	CM1	306
5	127	213	163	81	213	185	299	318	312	357	127	225	214	217	196	220	177	143	171	182	194	66	133	146	183
6	262	91	117	107	119	116	97	115	208	197	202	190	202	205	209	217	334	2	94	325	153	200	198	205	171
7	117	145	164	173	114	119	118	131	164	201	199	210	200	200	217	193	164	217	308	250	205	203	167	137	177
8	129	152	111	107	130	114	121	172	201	203	231	203	211	208	203	209	208	222	206	161	123	170	188	177	177
9	191	155	137	45	115	146	124	190	197	210	204	173	168	203	194	183	177	176	184	178	184	176	176	230	176
10	302	318	0	58	302	285	314	306	343	336	347	328	330	313	253	255	249	353	336	341	329	337	348	323	322
11	268	244	234	231	233	234	273	308	301	336	300	314	319	296	325	345	339	329	359	15	40	210	203	CM1	295
12	210	23	CM1	158	249	CM1	CM1	41	58	224	226	219	225	214	221	244	277	294	307	278	216	211	180	192	231
13	45	223	82	164	225	180	CM1	6	28	306	336	233	256	59	109	128	102	35	57	124	174	259	227	341	111
14	96	165	218	180	132	187	76	55	199	206	218	218	217	220	304	322	266	245	231	184	198	193	199	194	202
15	194	185	176	188	181	183	180	180	195	197	210	197	197	231	246	235	319	342	354	42	77	237	235	225	207
16	222	192	107	189	217	212	87	169	166	202	198	205	214	210	215	213	219	204	205	193	204	194	157	71	192
17	157	153	150	152	153	143	161	167	180	183	201	208	205	209	208	213	213	213	208	200	201	206	188	173	186
18	181	185	165	169	172	159	135	186	CM1	CM1	CM1	CM1	210	209	217	227	217	238	155	127	131	202	220	183	202
19	176	145	156	159	144	137	118	138	202	203	198	204	261	227	256	235	217	256	248	212	215	135	199	192	193
20	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1
21	180	168	218	294	199	221	11	319	335	305	349	347	347	334	337	290	265	99	109	99	168	152	126	292	
22	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1	CM1
23	126	158	141	109	130	144	180	188	202	191	240	161	154	166	175	158	153	198	185	225	159	156	79	163	163
24	124	144	128	123	118	114	94	196	196	152	243	65	81	107	139	193	209	175	122	159	205	CM1	101	207	146
25	167	111	127	221	157	121	112	159	199	204	213	218	197	227	231	239	180	169	60	119	167	162	146	125	170
26	172	138	112	125	166	130	78	120	231	215	227	231	317	93	231	215	205	201	202	183	178	112	99	102	167
27	91	98	91	86	106	138	152	182	213	213	217	218	213	340	281	185	139	145	179	153	96	106	117	111	148
28	99	118	108	109	121	110	100	146	210	214	208	175	311	285	138	143	113	100	215	206	201	CM1	84	84	143
29	107	127	107	117	141	140	121	70	56	52	356	335	253	230	224	243	199	223	310	213	148	135	145	117	146
30	137	169	144	128	114	191	102	131	117	279	3	356	346	2	342	169	176	149	139	147	139	120	118	137	130
31	147	134	152	124	138	160	171	198	202	209	223	207	212	225	211	295	359	65	214	200	143	166	126	131	176
PV	157	160	148	147	164	166	123	172	210	225	233	225	236	231	230	226	217	212	202	184	172	174	164	163	187

WIND DIRECTION 30M
DEGREES

CB-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	PREV
1	31	117	172	198	181	188	188	191	188	197	204	199	212	209	208	202	199	207	196	196	198	191	185	184	192
2	187	189	205	207	217	223	206	199	206	211	209	214	221	206	221	236	232	241	310	299	297	207	310	314	228
3	264	286	239	178	166	184	315	275	302	310	297	284	285	286	290	290	294	295	323	319	330	297	16	253	287
4	4	43	261	234	232	278	264	259	281	311	342	8	327	341	345	321	297	359	346	25	26	100	80	(CM)	241
5	(CM)	253	191	101	186	156	289	315	308	357	140	222	213	215	193	212	178	143	170	175	180	37	168	170	191
6	188	97	147	118	116	109	97	114	206	195	201	189	201	203	207	216	332	359	88	325	53	190	197	210	165
7	109	139	156	179	124	148	122	133	160	199	197	216	200	199	216	191	160	216	296	257	208	178	161	127	177
8	122	145	122	110	123	125	134	173	200	202	229	201	209	205	202	226	208	207	219	202	166	117	171	187	177
9	191	156	146	94	121	138	125	190	195	208	202	172	186	201	193	182	176	175	184	176	182	176	175	225	175
10	301	315	335	24	305	289	313	306	335	335	341	325	326	310	253	253	248	350	333	339	332	349	339	320	314
11	306	268	255	251	252	251	273	302	302	337	304	311	315	295	320	338	334	327	358	12	34	122	90	35	
12	216	328	319	120	284	330	(CM)	55	56	221	225	217	227	215	219	243	275	292	304	300	228	191	178	195	246
13	60	254	51	157	(CM)	(CM)	194	8	37	298	331	232	254	97	109	132	102	35	55	103	155	151	208	348	98
14	101	131	217	(CM)	111	166	106	86	197	206	216	218	216	220	304	319	263	242	230	174	190	188	191	193	196
15	193	185	175	186	180	179	178	180	192	196	207	195	196	229	244	233	316	339	353	42	72	278	256	241	210
16	230	215	147	137	188	202	117	168	164	200	196	203	213	208	213	212	216	202	203	191	202	194	166	176	191
17	154	149	139	139	140	141	156	165	177	180	199	206	204	205	209	211	211	211	199	196	184	197	170	181	181
18	174	188	167	170	171	174	137	185	(MT)	(MT)	(MT)	208	204	212	220	215	231	149	122	130	127	197	217	180	180
19	172	141	145	154	140	131	119	134	197	198	193	198	253	219	251	232	211	251	242	210	207	169	177	174	188
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	60	110	143	138	140	114	()
21	112	138	216	343	234	287	9	318	331	302	349	343	345	331	327	285	265	91	98	100	180	143	132	340	340
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	21	197	161	113	136	169	()
23	132	145	163	92	113	161	183	191	197	186	236	159	151	161	170	153	149	192	184	243	145	94	127	161	161
24	114	135	132	122	126	135	112	196	192	148	239	62	77	100	133	187	207	168	117	135	161	117	355	225	142
25	156	93	176	207	202	156	125	160	192	198	207	214	194	222	228	234	174	163	68	121	163	167	148	132	173
26	179	144	113	133	176	152	106	177	224	210	223	229	300	93	225	210	201	194	197	179	172	120	101	107	172
27	94	107	98	94	118	141	149	176	208	210	221	206	333	275	186	134	141	175	153	113	114	143	131	152	152
28	107	135	105	104	119	176	114	180	207	209	203	169	305	282	133	137	107	98	211	209	190	194	182	159	162
29	120	127	100	116	125	143	131	65	57	51	352	336	243	228	222	180	222	306	221	144	132	143	133	146	146
30	123	159	140	149	126	184	127	130	113	277	0	350	347	357	338	161	164	139	120	135	120	117	125	127	127
31	142	127	142	120	129	147	162	189	198	204	217	201	208	222	210	292	355	58	214	90	117	145	134	120	162
PV	146	159	159	142	159	170	145	177	205	222	230	222	233	226	227	223	213	211	200	172	156	157	163	172	185

WIND DIRECTION # 60M
DEGREES

CB-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	352	118	180	185	182	190	190	189	188	193	203	197	210	208	205	202	198	205	196	198	204	197	191	188
2	188	198	258	212	213	221	225	209	199	204	209	208	213	219	204	220	235	232	240	310	306	306	217	315
3	274	289	258	200	160	180	255	209	255	274	303	313	298	284	286	287	292	293	295	296	321	341	315	9
4	41	355	268	264	292	47	254	281	303	345	6	332	341	346	324	293	355	349	27	26	68	94	42	27
5	7	318	336	106	125	128	256	292	308	358	159	217	213	213	202	196	215	181	147	170	172	186	187	174
6	188	203	188	134	130	117	110	127	206	195	199	189	199	201	206	215	333	357	84	330	38	188	197	217
7	103	131	152	183	143	173	138	141	163	197	197	214	199	198	215	191	161	219	296	268	219	166	160	125
8	123	145	139	129	133	142	150	175	198	199	227	200	207	204	201	223	207	206	219	204	189	128	176	188
9	191	158	156	139	146	145	136	190	193	206	201	173	185	199	192	181	177	175	184	176	183	180	178	219
10	299	310	322	2	307	299	317	312	334	339	341	327	329	311	262	253	248	348	335	340	338	343	354	338
11	330	301	274	271	271	270	274	300	309	339	307	311	316	297	322	336	333	327	0	13	29	76	106	138
12	323	343	330	96	127	351	265	87	51	217	225	217	228	217	216	242	276	292	304	317	249	213	178	204
13	171	259	71	122	117	86	237	CM)	54	287	332	234	254	114	108	136	99	38	56	95	143	161	201	289
14	170	115	191	207	122	168	135	144	196	206	216	217	216	221	303	321	266	243	227	176	192	184	192	197
15	194	189	183	187	183	177	178	181	196	196	207	194	195	229	242	232	317	340	356	44	67	312	290	270
16	252	249	214	135	157	186	162	171	166	197	195	203	211	207	212	211	215	199	201	193	204	199	178	191
17	159	158	148	144	146	148	158	166	177	180	197	204	203	207	203	207	211	209	202	205	201	178	191	167
18	173	191	172	176	177	178	151	185	(MT)	(MT)	(MT)	(MT)	208	205	212	219	215	229	151	128	138	135	197	219
19	173	145	143	159	148	138	129	142	197	197	191	195	250	217	249	228	210	248	241	218	209	174	171	174
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	61	111	149	145	121
21	130	144	246	94	265	207	CM)	355	341	305	351	345	345	331	328	283	263	92	99	107	112	176	145	151
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	311	213	235	111	136	186
23	145	146	162	112	127	175	187	197	194	185	237	166	156	165	170	157	153	192	191	248	147	151	130	134
24	130	135	157	132	171	187	177	200	191	149	233	63	82	101	138	187	204	163	119	130	155	160	111	180
25	166	CM)	182	192	197	175	150	167	191	195	206	214	195	221	226	233	176	163	91	135	166	177	158	150
26	188	161	132	161	187	178	160	194	222	209	223	259	291	103	225	209	199	194	197	180	173	142	114	131
27	113	128	123	121	145	152	155	178	206	210	208	208	202	327	198	140	147	177	160	141	138	174	171	167
28	153	176	111	121	132	196	156	199	207	208	203	172	304	284	139	141	111	104	210	215	193	183	188	189
29	155	156	79	115	126	157	148	69	65	49	352	344	247	221	229	184	215	322	237	150	135	148	160	157
30	127	159	147	169	155	163	168	142	119	279	0	355	353	356	336	159	158	138	113	131	138	132	128	135
31	153	141	155	132	135	157	164	187	197	205	216	201	208	220	211	290	355	57	211	73	125	148	153	132
PV	162	170	174	151	159	168	177	183	203	220	229	221	232	224	226	222	213	214	197	182	160	164	165	174

WIND DIRECTION AND
VELOCITY AVERAGE VELOCITY (DEG & MPS)
10 METER LEVEL

CB-TRACT
TRAILER AA23
JULY 1983
CATHERAL BLUFFS SHALE OIL CO.

DAY	1	2	3	4	5	6	7	8	9	10	11	HOUR (LOCAL STANDARD TIME)												16	17	18	19	20	21	22	23	24	VECTOR DIR VEL
1	66	127	145	214	203	191	191	193	190	198	205	200	214	210	210	204	201	209	194	194	194	191	187	188	198	3-8							
2	194	186	190	199	208	223	205	200	207	214	210	215	224	209	223	237	234	242	311	297	292	204	308	314	223	4-1							
3	263	287	226	177	171	201	16	281	303	310	300	266	288	288	292	293	297	298	326	321	331	268	202	221	294	2-9							
4	***	225	215	***	254	239	***	283	310	340	11	323	345	342	323	309	356	349	27	28	209	234	174	***	322	0-7							
5	127	213	163	81	213	185	299	318	312	357	127	225	214	217	196	220	177	143	171	182	194	66	133	146	189	1-0							
6	262	91	117	107	119	116	97	115	208	197	202	190	202	205	209	217	334	2	94	325	153	200	198	205	188	1-4							
7	115	145	164	173	114	119	114	131	164	201	199	219	200	200	217	193	164	217	308	250	205	203	167	137	186	2-2							
8	129	142	111	107	130	114	121	172	201	203	231	203	211	208	203	194	183	177	176	184	176	176	230	185	3-5								
9	191	155	137	45	115	186	124	190	197	210	204	173	188	203	194	183	177	176	184	178	184	176	176	230	185	3-5							
10	302	318	0	58	302	285	314	306	343	336	347	328	330	313	253	255	249	353	336	341	329	337	348	323	316	1-9							
11	268	244	234	231	233	234	273	308	301	336	300	314	319	296	325	345	339	329	359	15	40	210	203	***	292	1-1							
12	210	223	***	158	259	***	***	41	58	224	226	219	225	214	221	244	217	294	307	278	216	211	180	192	234	1-0							
13	45	223	82	164	225	180	***	6	28	306	336	233	256	59	109	128	102	35	57	124	174	259	227	341	138	0-3							
14	96	165	218	180	132	187	76	55	199	206	218	218	217	220	304	322	266	245	231	184	198	193	199	194	218	2-0							
15	194	185	176	188	181	183	180	180	195	197	210	197	197	231	246	235	319	342	354	42	77	237	235	225	208	3-5							
16	222	192	107	189	217	212	87	169	166	202	198	205	214	210	215	213	219	204	205	193	204	194	157	71	202	3-4							
17	157	153	150	152	153	149	161	167	180	183	201	208	205	209	208	213	213	238	155	127	131	206	188	173	190	4-0							
18	181	185	165	169	172	169	135	186	***	***	***	***	***	210	209	217	227	217	238	155	127	131	131	202	220	185	3-3						
19	176	145	156	159	144	137	118	138	202	203	198	204	261	227	256	235	217	256	248	212	215	135	199	192	197	1-8							
20	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	65	112	146	144	145	125	***	***							
21	180	168	218	294	199	221	11	319	335	305	349	347	347	334	337	290	265	99	105	109	99	168	152	126	38	0-1							
22	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	45	187	160	113	177	177	163	***	***							
23	126	154	141	109	130	144	180	188	202	191	240	161	154	166	175	158	153	198	185	225	159	156	79	136	166	1-9							
24	124	144	128	123	118	114	94	196	196	152	243	65	81	107	139	193	209	175	122	159	205	***	101	207	141	1-1							
25	167	111	127	221	157	121	112	159	199	204	213	218	197	227	231	239	180	169	60	119	167	162	146	125	184	2-1							
26	172	138	112	125	166	130	78	120	231	215	237	231	317	93	231	215	205	201	202	183	178	112	99	102	188	1-6							
27	91	98	91	86	106	138	152	182	213	213	217	218	213	340	281	185	139	145	179	153	96	106	117	111	166	1-4							
28	91	118	108	109	121	110	100	146	210	214	208	175	311	285	138	143	113	100	215	206	201	***	64	84	154	1-0							
29	107	127	107	117	141	140	121	70	56	52	566	335	253	230	224	243	199	223	310	213	148	135	145	117	144	0-8							
30	137	169	144	128	118	191	102	131	117	279	3	356	346	2	342	169	176	149	139	147	139	122	118	137	137	1-5							
31	147	134	152	124	138	160	171	198	202	209	223	207	212	225	21	295	359	65	214	200	143	166	126	131	178	1-5							
WD	167	163	154	153	161	167	148	178	200	210	221	216	221	221	227	226	216	214	212	176	177	167	170	175	197								
WV	1-2	1-4	1-3	1-3	1-4	1-4	1-3	1-5	2-2	2-4	2-6	2-6	2-7	2-6	2-8	2-8	1-8	1-3	0-6	0-9	1-7	1-5	1-4	1-2	1-6								

TOTAL NUMBER OF OBSERVATIONS = 694

NOTE: *** = MISSING DATA

WIND DIRECTION AND
VELOCITY AVERAGE VELOCITY (DEG & MPS)
30 METER LEVEL

CB-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	HOUR (LOCAL STANDARD TIME)												VECTOR													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DIR	VEL
1	31	117	172	198	181	188	188	191	188	197	204	199	212	209	208	202	199	207	196	196	198	191	185	184	196	5-7
2	187	189	205	207	217	223	206	199	206	211	209	214	221	206	221	236	232	241	310	299	297	207	310	314	222	6-0
3	264	286	234	178	166	184	315	275	302	310	297	284	285	286	290	290	294	295	323	319	334	297	16	253	293	4-0
4	43	261	239	232	278	264	259	281	311	342	8	327	341	345	321	297	359	346	25	26	100	80	***	241	336	0-9
5	***	253	191	101	186	156	289	315	308	357	140	222	213	215	193	212	178	143	170	175	180	37	168	170	188	1-6
6	188	97	147	118	116	109	97	114	206	195	201	189	201	203	207	216	332	359	88	325	53	190	197	210	186	2-0
7	109	139	156	179	124	148	122	133	160	199	197	216	200	199	216	191	160	216	296	257	208	178	161	127	182	3-1
8	122	145	122	110	123	125	134	173	200	202	229	201	209	205	202	226	208	207	219	202	166	117	171	187	186	3-9
9	191	156	146	94	121	138	125	190	195	208	202	172	186	201	193	182	176	175	184	176	182	176	175	225	184	4-9
10	301	315	335	24	305	289	313	306	335	335	341	325	326	310	253	253	248	350	333	339	332	337	349	329	315	2-7
11	306	268	255	251	252	251	273	302	302	337	304	311	315	295	320	338	334	327	358	12	34	122	90	35	304	1-7
12	216	328	319	120	284	330	***	55	56	221	225	217	227	215	219	243	275	292	304	300	228	191	178	195	237	1-2
13	60	254	51	157	***	***	194	8	37	294	331	232	254	97	109	132	102	35	55	103	155	151	208	348	110	0-5
14	101	131	217	***	111	166	106	86	197	206	216	218	216	220	304	319	263	242	230	174	190	188	191	193	213	3-0
15	193	185	175	186	180	179	178	180	192	196	207	195	196	229	244	233	316	339	353	42	72	278	256	241	206	5-0
16	230	215	147	137	188	202	117	168	164	200	196	203	213	208	213	212	216	202	203	191	202	194	166	176	200	4-9
17	153	149	139	139	140	141	156	165	177	180	199	206	204	208	205	209	211	211	204	199	196	184	197	170	185	5-8
18	174	188	167	170	171	174	137	185	***	***	***	***	208	204	212	220	215	231	149	122	130	127	197	171	182	4-8
19	172	141	145	154	140	131	119	134	197	198	193	198	253	219	251	232	211	251	242	210	207	169	177	174	188	2-7
20	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	60	110	143	138	140	114	***	***
21	112	138	216	343	234	287	9	318	331	302	349	343	345	331	327	285	265	91	98	104	100	180	143	132	44	0-3
22	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	21	197	161	113	136	185	169	***	***
23	132	145	163	92	113	161	183	191	197	186	236	159	151	161	170	153	149	192	184	243	145	149	94	127	163	2-9
24	119	135	132	122	126	135	112	196	192	148	239	62	177	100	133	187	207	168	117	135	161	117	355	225	135	1-5
25	156	93	176	207	202	156	125	160	192	198	207	214	194	222	228	234	174	163	68	121	163	167	148	132	181	3-1
26	179	144	113	143	176	152	106	177	224	210	223	229	300	93	225	210	201	194	197	179	172	120	101	107	185	2-6
27	94	107	98	94	118	141	149	176	208	210	210	212	206	333	275	186	134	141	175	153	113	114	143	131	163	2-2
28	107	135	105	104	119	176	114	180	207	209	203	169	305	282	133	137	107	98	211	209	190	194	182	159	162	1-6
29	120	127	100	116	125	143	131	65	57	51	352	336	243	228	222	235	180	222	306	221	144	132	143	133	145	1-2
30	123	159	140	149	126	184	127	130	113	277	0	350	347	357	338	161	164	139	129	135	135	120	117	125	132	2-4
31	142	127	142	120	129	147	162	189	198	204	217	201	208	222	210	292	355	58	214	90	117	145	134	120	165	2-1
VD	161	160	158	152	156	166	155	177	196	208	218	213	219	218	226	223	213	212	207	170	168	161	170	175	193	
VV	1-8	2-0	1-8	1-9	2-1	2-2	1-9	2-2	3-0	3-3	3-5	3-5	3-7	3-6	3-8	3-8	2-5	1-9	0-8	1-3	2-5	2-2	2-3	1-9		2-2

TOTAL NUMBER OF OBSERVATIONS = 699

NOTE: **** = MISSING DATA

WIND DIRECTION AND
VECTOR AVERAGE VELOCITY (UEG & MPS)
6.0 METER LEVEL

C8-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

DAY	HOUR (LOCAL STANDARD TIME)																								DIR	VEL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	352	118	180	185	182	190	190	189	188	193	203	197	210	208	205	202	198	205	196	198	204	197	191	188	196	6.8	
2	188	198	212	213	221	225	209	194	204	209	208	213	219	204	220	235	232	230	310	306	306	217	315	322	223	6.8	
3	274	289	258	200	160	180	255	274	303	313	298	284	286	287	292	293	295	296	325	321	341	315	47	8	296	4.4	
4	41	355	268	264	292	47	254	281	309	345	6	332	341	346	324	293	355	349	27	26	68	94	42	27	349	1.2	
5	7	318	336	106	125	128	256	292	308	358	159	217	213	213	192	213	181	147	170	172	175	186	187	174	185	1.7	
6	184	203	188	134	130	117	110	127	206	195	199	189	199	201	206	215	333	357	84	330	38	188	197	217	191	2.4	
7	103	131	152	143	133	142	134	137	163	197	197	214	199	198	215	191	161	219	296	268	219	166	160	125	182	3.6	
8	123	145	139	129	133	142	150	175	198	199	227	200	207	204	201	223	207	206	219	204	189	128	176	188	186	4.6	
9	191	158	156	139	146	145	136	190	193	206	201	173	165	199	192	181	177	175	184	176	183	180	174	219	184	5.7	
10	299	310	322	2	307	299	317	312	334	339	341	327	329	311	262	253	248	348	335	340	338	343	338	317	3.2		
11	330	301	274	96	127	351	265	87	51	217	225	217	228	217	216	242	276	292	304	317	249	213	178	204	241	1.2	
12	323	343	330	96	127	351	265	87	51	217	225	217	228	217	216	242	276	292	304	317	249	213	178	204	241	1.2	
13	171	259	71	122	117	86	237	***	54	287	332	234	254	114	108	136	99	38	56	95	143	161	201	289	121	0.7	
14	170	115	191	207	122	168	135	144	196	206	216	217	216	221	303	321	266	317	340	356	44	67	312	290	270	206	5.4
15	194	189	183	147	183	177	178	181	190	196	207	194	195	229	242	232	217	315	199	201	193	204	199	178	191	206	5.5
16	252	249	214	135	157	186	162	171	166	197	195	203	211	207	212	211	215	199	201	193	204	199	178	191	206	5.5	
17	159	158	148	144	146	148	158	166	177	180	197	204	203	207	203	207	211	209	202	205	201	178	191	167	185	6.5	
18	173	191	172	176	177	178	151	185	***	***	***	***	208	205	212	219	215	229	151	128	138	135	197	219	184	5.6	
19	173	145	143	159	148	138	129	142	197	197	191	195	250	217	249	228	210	248	241	218	209	174	171	174	186	3.3	
20	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	61	111	149	145	146	121	***	***	
21	130	144	246	94	265	297	***	355	331	305	351	345	345	331	328	283	263	92	99	107	112	176	145	151	75	0.4	
22	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	311	213	235	111	136	186	172	***	***	
23	145	146	182	112	127	175	187	197	194	185	237	166	156	165	170	157	153	192	191	248	147	151	130	134	169	3.4	
24	130	135	157	132	171	187	177	200	191	149	233	63	82	101	138	187	204	169	119	130	155	160	111	180	147	1.7	
25	166	***	182	192	197	175	150	167	191	195	206	214	195	221	226	233	176	163	91	135	166	177	158	150	184	4.0	
26	184	161	132	161	187	178	160	194	222	209	223	229	291	103	225	209	199	194	197	180	173	142	114	131	189	3.4	
27	113	124	123	121	145	152	155	178	206	210	208	208	202	332	217	198	140	147	177	160	173	142	114	171	174	2.9	
28	153	176	117	121	132	196	156	199	207	208	203	172	304	284	139	141	111	104	210	215	193	183	188	189	178	2.0	
29	155	156	79	115	126	157	148	69	65	44	352	344	247	227	221	229	184	215	322	237	150	135	148	160	155	1.4	
30	127	159	147	159	155	163	168	142	119	279	0	355	353	356	336	159	158	138	113	131	138	132	128	135	171	2.8	
31	153	141	155	132	135	157	164	187	197	205	216	201	208	220	211	290	355	57	211	73	125	148	151	132	169	2.5	
VO	171	166	171	164	166	174	171	181	196	206	217	212	217	217	225	222	214	209	206	172	170	164	175	182	194		
VV	2.1	2.4	2.1	2.4	2.5	2.6	2.6	2.8	3.3	3.5	3.7	3.9	4.0	3.9	4.2	4.1	2.7	2.1	1.0	1.4	2.8	2.9	3.0	2.6		2.6	

TOTAL NUMBER OF OBSERVATIONS = 702

NOTE: *** = MISSING DATA

SIGMA HORIZ. WIND DIR. = 10M
DEGREES

CB-TRACT
TRAILER AA2J
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK	
1	10	8	18	17	32	10	7	8	11	11	15	12	13	12	12	12	10	11	9	4	4	4	4	4	11	32	
2	4	3	6	5	6	8	8	9	11	10	11	12	13	13	12	12	12	10	11	9	4	4	4	4	11	32	
3	8	7	12	9	40	23	16	19	17	14	13	13	13	13	13	14	11	11	10	7	11	10	13	9	9	13	
4	(CM)	6	7	(CM)	18	11	(CM)	27	35	32	25	34	28	32	40	35	24	19	11	7	10	21	18	(CM)	22	40	
5	30	13	15	21	11	22	13	19	16	33	49	30	29	25	26	42	25	17	5	4	9	10	17	30	21	46	
6	25	13	8	6	4	6	7	17	26	14	19	20	13	14	13	10	12	14	9	4	9	12	10	22	14	26	
7	8	10	18	11	18	25	10	14	12	13	14	13	14	15	16	15	11	14	8	8	6	13	13	9	13	25	
8	9	6	12	5	6	11	10	14	11	10	13	14	13	15	13	14	15	8	6	5	5	5	11	9	10	15	
9	11	16	20	12	21	5	9	18	11	14	14	12	12	12	12	12	10	15	10	6	5	5	17	11	12	21	
10	7	7	18	20	13	5	13	24	37	30	34	23	27	27	27	11	14	16	8	7	7	9	8	17	17	37	
11	10	5	4	3	4	4	14	10	24	30	36	34	37	32	30	26	34	17	8	5	16	12	13	(CM)	18	37	
12	11	10	5	4	3	4	14	10	24	30	36	34	37	32	30	26	34	17	8	5	16	12	13	(CM)	18	37	
13	12	13	18	14	7	18	20	(CM)	24	20	34	41	33	43	41	30	32	25	20	8	7	4	39	15	14	23	43
14	7	12	14	20	9	15	10	21	16	13	16	15	15	15	10	18	28	13	9	5	5	6	6	6	13	28	
15	7	6	5	7	6	6	6	9	12	11	18	14	12	12	12	11	15	9	8	10	15	10	6	5	10	18	
16	5	21	16	26	9	15	11	13	12	14	13	15	13	15	13	15	14	12	11	6	4	5	5	18	13	26	
17	18	3	5	6	7	7	8	10	10	12	13	12	15	15	15	15	13	11	10	6	4	11	14	12	11	18	
18	4	5	5	3	4	11	8	14	(MT)	(MT)	(MT)	18	21	19	16	20	15	15	9	7	7	10	8	11	21	21	
19	14	19	24	11	14	5	10	12	13	25	13	20	17	49	26	19	15	16	7	4	2	21	13	11	16	49	
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	7	8	7	9	()	9	9	
21	6	11	3	13	4	4	10	22	24	22	30	42	23	21	34	22	12	9	7	7	10	8	11	7	15	42	
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	7	10	6	4	8	3	()	15
23	4	5	11	3	4	5	5	15	9	15	12	8	13	11	13	10	11	11	10	12	6	6	11	8	9	15	
24	5	5	4	5	4	11	6	12	15	22	40	22	16	8	11	23	20	21	18	5	6	(CM)	23	13	13	40	
25	9	7	13	7	15	19	11	22	12	12	11	17	22	15	18	15	11	9	19	10	8	12	6	7	13	22	
26	17	7	8	15	21	7	28	25	12	15	16	26	17	24	12	10	10	8	6	6	16	6	8	14	28	28	
27	7	7	7	12	16	7	10	11	11	15	13	11	10	9	10	9	10	9	7	10	11	6	6	7	10	16	
28	7	9	6	5	4	14	3	15	11	18	23	37	24	31	16	9	11	16	15	3	3	(CM)	15	7	13	37	
29	3	4	6	6	4	4	5	8	22	27	18	33	33	34	31	26	33	26	29	6	5	10	6	11	18	16	33
30	5	5	9	9	4	12	15	13	17	27	26	33	23	33	14	12	14	7	4	6	7	6	5	8	13	33	
31	11	4	4	5	4	4	4	10	9	15	12	13	23	27	19	14	9	6	16	4	10	6	7	5	10	27	
AV	10	9	10	10	10	12	10	15	17	19	21	21	21	21	19	18	16	13	10	7	8	10	11	10	14	14	
PK	30	21	24	26	32	40	23	28	37	34	49	42	50	49	40	42	34	29	19	15	19	39	23	30	30	50	

SIGMA HORIZ. WIND DIR. 30M
DEGREES

CH-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

MOOR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	11	8	10	10	9	7	6	8	10	10	14	11	12	11	11	9	10	8	3	3	3	2	3	8	14	
2	3	3	4	4	4	5	6	8	10	9	9	10	11	12	10	11	9	10	6	3	9	13	13	8	13	
3	7	5	6	6	7	24	18	14	18	15	12	11	11	11	12	12	9	11	8	7	7	7	13	28	12	
4	14	14	7	20	9	11	34	24	35	28	24	29	26	28	33	30	25	18	10	4	19	16	(CM)	13	20	
5	(CM)	15	16	4	15	11	12	22	14	31	44	29	27	22	33	36	22	15	4	2	12	20	15	12	18	
6	18	23	16	8	4	3	5	13	21	12	15	17	11	11	14	12	9	12	15	4	18	10	8	20	13	
7	7	7	14	8	15	29	16	9	13	12	11	11	13	14	14	10	9	14	8	5	10	6	7	12	29	
8	5	7	9	5	3	9	10	13	10	9	11	11	11	13	13	11	12	12	7	4	4	7	10	8	9	
9	10	22	15	15	33	4	7	16	9	11	12	10	10	10	10	11	10	13	9	5	5	14	10	12	33	
10	6	5	14	13	9	4	11	24	31	38	30	19	25	24	27	10	12	15	6	6	6	8	7	15	38	
11	8	4	4	4	4	4	12	10	19	29	36	32	34	31	27	23	28	18	8	4	12	21	17	14	17	
12	18	9	13	17	13	9	(CM)	16	27	21	25	30	44	24	20	22	23	15	14	11	4	16	18	10	18	
13	20	20	13	18	(CM)	15	39	21	30	33	28	36	41	23	27	19	21	8	5	2	16	17	9	21	41	
14	9	15	13	(CM)	7	13	13	15	15	12	14	15	13	14	8	16	20	11	9	2	3	3	5	5	11	
15	5	4	3	4	4	5	5	8	10	11	16	13	10	11	9	9	14	7	7	6	14	13	7	6	16	
16	7	12	17	11	10	10	11	11	10	13	11	13	12	14	11	13	13	11	9	5	2	3	6	35	11	
17	7	3	3	4	5	7	7	9	9	11	11	11	13	14	13	14	11	10	9	4	2	7	14	3	8	
18	3	5	5	4	6	9	9	13	(MT)	11	(MT)	16	17	16	15	18	16	8	7	8	14	13	7	6	16	
19	13	20	21	8	12	3	9	12	12	23	13	21	17	44	23	19	14	18	6	3	2	18	11	20	15	
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	7	7	8	5	8	6	34	
21	10	7	14	12	13	11	12	26	30	20	25	34	20	19	34	21	10	8	7	8	11	9	10	8	16	
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	14	9	13	5	4	9	6	14	
23	5	6	17	7	7	8	4	21	9	16	11	7	13	10	11	9	9	9	10	11	4	4	14	6	10	
24	5	4	7	5	12	19	15	31	14	31	38	32	17	6	9	24	21	21	8	3	5	28	20	17	38	
25	11	22	18	9	23	28	13	22	12	11	9	17	24	15	16	14	10	7	21	10	7	15	6	9	15	
26	26	9	9	14	14	26	27	29	23	11	13	15	27	17	21	11	10	8	8	5	6	16	7	11	29	
27	7	8	10	15	23	8	10	11	10	12	13	10	9	10	9	8	9	8	7	10	13	9	12	12	11	
28	10	17	6	5	4	20	6	29	10	15	18	34	21	29	13	9	8	16	14	3	3	30	23	29	16	
29	9	12	11	4	4	4	10	12	21	20	18	30	32	26	28	37	28	37	28	11	5	8	5	8	19	
30	3	3	7	11	6	12	14	13	17	26	25	32	23	36	13	11	11	7	3	4	6	6	7	13	36	
31	9	4	3	5	3	3	3	9	9	15	10	12	20	22	20	14	8	5	26	8	5	6	8	5	10	

CB-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

II- 250

TEMPERATURE * 10M
DEGREE C

CR-TRACT
TRAILER AA23
JULY 1983
CATHEMRA BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	13	13	12	11	12	13	17	19	21	22	23	23	24	24	24	23	23	24	22	20	17	17	17	16	19	24
2	16	16	15	14	13	15	17	19	20	21	22	23	24	24	24	25	24	25	20	17	16	14	13	12	19	25
3	11	9	9	9	9	10	11	15	17	18	19	21	21	22	23	23	23	22	21	18	15	13	11	11	16	23
4	8	7	7	6	5	4	7	12	14	17	19	21	23	24	24	25	25	24	23	21	16	14	13	12	16	25
5	9	9	8	8	8	9	11	15	19	23	26	28	28	29	29	30	30	29	27	23	19	17	17	20	30	31
6	17	16	17	16	16	17	18	23	27	28	29	31	31	31	30	28	23	22	19	18	17	14	13	22	31	32
7	12	12	12	13	14	14	16	18	21	23	26	24	25	24	26	26	27	26	22	19	18	16	17	20	29	30
8	16	16	15	14	14	14	17	21	20	21	24	24	24	25	25	24	22	22	21	20	19	18	18	21	27	28
9	17	17	16	15	15	14	17	20	22	23	23	23	24	24	25	25	24	22	21	20	19	18	18	20	25	26
10	16	14	13	13	13	12	14	16	17	19	21	23	23	24	24	25	24	22	21	20	19	18	18	20	25	26
11	10	8	7	7	6	6	8	12	13	16	19	21	22	24	24	24	24	24	22	19	17	14	13	12	18	25
12	11	11	9	9	9	9	12	16	19	23	25	26	28	28	28	28	28	28	27	23	19	17	16	16	19	26
13	14	14	13	13	14	13	14	18	21	26	27	28	29	30	30	31	31	29	27	24	21	18	17	16	21	31
14	15	16	14	13	13	15	16	20	25	27	28	29	31	31	27	29	29	28	27	24	21	21	19	20	22	31
15	21	19	18	19	18	19	19	22	23	24	24	23	26	28	27	26	24	20	18	16	14	13	12	11	20	28
16	9	8	8	8	7	7	10	17	21	23	24	24	26	27	28	27	27	27	26	23	20	19	17	19	28	29
17	17	18	18	18	17	18	19	22	23	24	26	27	27	28	28	29	29	28	27	24	21	19	18	19	23	29
18	19	20	19	18	18	18	21	23	(MT)	(MT)	(MT)	(MT)	29	30	31	31	30	30	27	23	19	19	20	16	23	31
19	14	16	17	16	16	16	18	21	23	24	23	23	24	27	28	29	28	28	26	23	21	19	18	18	21	29
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	17	17	16	15	15	15	17	17
21	14	13	12	12	12	12	15	18	22	23	26	27	28	27	29	22	18	16	15	14	14	13	13	13	18	29
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	13	13	14	13	13	14	14	14	14
23	14	14	13	14	14	14	14	16	18	20	17	12	13	14	18	19	20	19	18	17	15	14	13	12	16	20
24	12	12	12	11	11	11	13	18	21	23	25	23	23	24	25	27	27	27	26	22	19	17	16	15	19	27
25	15	14	14	15	15	15	17	20	23	24	24	24	26	26	27	27	23	15	14	14	14	14	14	14	14	27
26	14	14	13	13	14	14	13	16	19	21	22	23	17	20	24	24	23	22	22	19	17	16	16	16	18	24
27	14	14	14	14	14	14	16	19	21	21	21	20	18	17	15	13	17	17	17	15	13	12	12	12	16	21
28	12	12	12	11	11	12	13	15	20	22	23	24	25	27	25	23	23	23	25	21	18	17	16	15	19	27
29	14	14	14	14	14	14	16	18	22	24	27	28	29	29	30	30	29	30	27	24	21	19	18	17	22	30
30	17	17	16	16	15	15	17	21	24	27	28	29	29	31	28	27	24	27	23	21	19	18	18	17	22	31
31	17	17	17	16	17	17	17	19	21	23	23	23	24	24	26	24	22	19	17	17	17	17	17	17	19	26

MONTHLY MINIMUM = 4

TEMPERATURE @ 30M
DEGREE C

CB-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	9	11	12	8	12	12	14	16	17	18	18	19	19	19	3	12	21	22	22	21	-1	5	4	15	14	22
2	9	8	11	11	11	11	12	13	14	15	16	17	18	18	1	4	19	19	17	13	13	10	8	11	9	21
3	9	9	9	10	10	11	9	-4	2	15	17	18	6	1	-4	4	14	13	12	9	12	10	12	11	14	18
4	9	7	8	5	7	5	8	12	13	16	18	20	21	23	24	24	24	23	22	21	17	15	13	12	15	24
5	10	9	9	10	9	10	9	12	15	18	21	24	26	26	27	28	28	29	28	27	22	18	19	18	19	29
6	18	17	18	18	17	18	19	18	20	22	22	16	13	14	26	25	15	8	15	21	19	18	14	12	19	26
7	13	12	13	14	13	14	13	13	18	19	20	22	22	20	24	20	25	20	1	18	16	17	17	17	17	28
8	17	16	15	14	15	15	17	17	17	17	17	16	18	18	18	16	14	13	13	23	21	19	17	17	20	25
9	17	17	16	14	15	15	17	17	17	17	17	16	18	18	18	16	14	13	13	23	22	11	11	14	18	15
10	14	13	13	12	12	8	6	12	13	15	17	19	21	22	23	23	23	23	21	19	17	15	13	13	15	23
11	9	8	8	5	4	4	6	12	13	15	17	19	21	22	23	26	26	26	26	23	22	19	18	18	19	27
12	12	11	11	9	8	7	12	16	19	22	23	24	26	26	26	29	29	28	27	24	24	8	12	17	16	29
13	17	16	15	14	14	13	16	12	9	9	7	6	8	21	26	29	28	26	24	23	22	21	21	22	28	28
14	16	17	15	14	14	17	17	20	24	26	27	27	28	28	27	27	28	26	24	16	14	11	5	7	19	25
15	21	20	20	19	20	19	19	22	23	23	23	22	24	25	25	26	26	26	26	24	23	22	21	18	19	26
16	11	9	8	9	7	7	11	17	21	22	22	23	24	25	26	27	28	27	27	24	23	22	19	21	23	28
17	18	19	19	19	19	19	20	22	22	23	24	25	26	27	27	28	28	29	28	26	24	20	20	20	17	23
18	21	21	20	19	19	19	21	23	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	27	28	28	28	26	21	20	20	19	21	27
19	14	17	18	17	16	17	18	21	23	23	22	22	23	26	27	27	27	27	25	23	23	21	20	19	21	27
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)
21	14	14	13	8	8	15	18	21	22	23	25	26	25	28	21	18	15	14	14	13	13	13	13	17	28	(PF)
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)
23	14	14	14	14	14	14	13	15	17	19	16	11	12	13	17	19	19	18	17	17	16	15	14	13	15	19
24	13	11	8	7	3	12	13	17	19	22	23	22	22	19	19	22	24	26	24	22	21	18	17	16	18	26
25	17	16	16	17	17	17	17	17	17	18	19	21	20	19	21	20	17	14	14	14	14	13	14	16	17	21
26	14	13	13	13	14	14	14	15	17	18	19	21	16	17	19	19	19	18	17	16	18	17	16	16	21	21
27	16	15	15	15	15	15	16	18	19	19	16	15	15	16	14	7	12	16	17	15	13	13	13	13	15	19
28	12	8	12	11	13	16	13	13	19	20	21	23	24	26	22	22	22	23	24	27	25	23	18	17	16	26
29	16	16	15	15	15	16	16	16	17	19	21	22	23	23	25	28	28	28	27	25	23	20	19	18	20	28
30	18	17	17	16	16	18	18	18	22	24	27	27	27	28	27	26	25	26	24	23	20	19	18	19	22	28
31	18	17	17	17	16	16	17	18	19	22	21	21	22	19	17	17	14	14	18	17	17	18	17	17	17	18

MONTHLY MINIMUM = -4

AV	14	14	14	13	13	13	14	16	18	20	20	20	21	21	22	22	22	22	20	19	17	16	15	15	18	
PK	21	21	20	19	20	19	21	23	26	26	27	27	28	28	28	29	29	28	27	25	23	22	21	21	29	
MN	9	7	8	5	3	4	6	-4	2	9	7	6	6	1	-4	4	12	8	1	8	-1	5	4	7		

TEMPERATURE @ 60M
DEGREE C

CB-TRACT
TRAILER AA2J
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	15	15	15	14	16	16	18	19	21	21	22	22	23	23	23	22	23	23	22	21	20	20	19	19	20	23
2	18	18	17	17	17	17	18	18	19	21	21	22	23	23	23	24	24	24	24	19	17	16	14	14	12	19
3	11	9	9	8	10	11	12	15	16	17	18	19	20	21	22	22	22	22	20	18	16	14	12	12	16	22
4	11	9	8	8	10	11	13	16	18	19	21	21	23	23	23	23	23	23	22	21	18	16	14	13	16	23
5	12	11	10	10	11	12	13	16	18	22	25	27	27	28	29	29	28	28	27	24	24	21	19	13	20	29
6	19	18	19	19	18	19	20	22	26	27	28	29	29	30	30	29	27	26	23	21	19	18	14	13	23	30
7	13	14	14	15	14	16	18	20	21	23	24	26	26	27	27	28	26	26	21	20	19	18	18	20	28	28
8	17	16	15	15	16	16	17	20	22	22	23	23	24	24	24	24	26	25	22	22	21	20	19	18	20	26
9	17	17	16	16	16	17	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
10	16	14	14	13	13	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
11	11	9	8	8	7	7	8	12	15	17	19	20	22	23	23	23	23	23	23	23	23	23	23	23	23	23
12	12	11	11	11	12	11	13	17	19	23	23	25	26	26	26	26	26	26	26	26	26	26	26	26	26	26
13	18	17	16	15	14	14	16	19	21	25	26	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28
14	17	18	17	15	16	18	19	22	24	26	27	28	29	29	29	29	29	29	29	29	29	29	29	29	29	29
15	22	22	21	21	21	21	20	21	23	23	23	23	25	26	26	26	26	26	26	26	26	26	26	26	26	26
16	11	9	9	9	9	9	9	12	18	21	22	22	23	24	26	26	26	26	26	26	26	26	26	26	26	26
17	19	20	20	19	19	19	20	21	22	23	24	26	26	27	28	28	28	28	28	28	28	28	28	28	28	28
18	22	21	20	19	19	19	21	22	23	24	26	26	27	28	28	28	28	28	28	28	28	28	28	28	28	28
19	15	18	18	17	16	17	18	20	23	24	26	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)
21	14	15	14	13	13	12	15	18	21	23	24	26	27	28	28	28	28	28	28	28	28	28	28	28	28	28
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)
23	14	15	14	14	14	14	16	16	17	19	16	12	13	13	18	19	19	18	17	17	16	14	14	14	14	14
24	13	13	13	13	13	13	14	18	21	23	24	26	27	28	29	29	29	29	29	29	29	29	29	29	29	29
25	17	17	17	17	17	17	18	20	22	23	23	25	25	26	26	26	26	26	26	26	26	26	26	26	26	26
26	14	14	13	14	14	14	14	16	18	21	22	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24
27	16	16	16	15	16	16	16	18	19	20	19	17	16	14	13	16	16	16	16	16	16	16	16	16	16	16
28	14	13	13	13	13	13	14	16	19	21	22	23	24	25	24	22	22	23	22	22	21	19	18	17	19	25
29	17	17	16	16	16	17	18	19	22	24	26	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28
30	18	19	18	18	17	17	18	21	24	26	28	28	28	29	27	26	24	26	24	23	21	19	18	18	22	29
31	18	18	18	18	18	18	18	19	21	22	22	22	23	23	24	25	24	24	24	24	24	24	24	24	24	24

MONTHLY MINIMUM = 6

AV	16	15	15	15	15	15	16	18	20	22	23	23	24	24	25	25	24	24	22	20	19	18	17	16	20	
PK	22	21	21	21	21	20	21	22	26	27	28	29	29	29	30	29	29	28	27	25	24	24	22	22	30	
MN	11	9	8	8	7	6	8	11	12	15	16	12	13	13	14	13	16	13	13	14	13	13	12	12		

DELTA TEMPERATURE 60-10M
DEGREE C*100

CB-TRACT
TRAILER AA23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE	PEAK
1	183	183	289	333	344	250	28	-50	-78	-72	-100	-94	-122	-106	-122	-72	-78	-94	-44	44	222	233	217	228	63	344
2	189	-422	-128	217	256	144	-6	-56	-83	-206	-161	-161	-211	-472	-189	-144	-111	-111	-117	-67	-33	0	-100	-44	-84	256
3	183	-33	17	28	56	28	39	-128	-156	-144	-133	-133	-178	-206	-378	-706	-139	-128	-117	-328	-494	-28	56	61	-132	61
4	183	122	39	144	178	94	-33	-61	-122	-139	-100	-206	-178	-144	-506	-206	-144	-106	-117	-106	-22	89	-44	-17	-44	183
5	200	156	133	244	217	267	194	11	-72	-44	-117	-133	-133	-150	-128	-139	-122	-94	-56	94	294	144	206	172	44	294
6	211	278	239	272	250	250	128	-22	-72	-44	-94	-106	-117	-128	-117	-94	44	33	72	89	139	56	-72	45	278	
7	33	72	100	139	44	78	39	-28	-50	-67	-128	-106	-117	-144	-111	-106	133	-39	6	106	194	233	144	16	233	
8	150	94	61	89	122	72	11	-56	-61	-72	-133	-106	-122	-111	-106	-167	-117	-106	-117	-17	139	94	83	-33	-17	150
9	-22	-22	-17	0	56	78	-22	-56	-78	-94	-111	-78	-94	-106	-117	-106	-83	-33	-33	-17	17	67	111	83	-28	111
10	-17	-22	-6	-6	6	6	-83	-117	-133	-167	-139	-167	-150	-156	-128	-161	-161	-122	-83	-22	17	-6	-11	17	-75	17
11	61	78	94	106	128	111	-50	78	-100	-122	-194	-189	-189	-206	-206	-144	-128	-117	-100	-33	106	133	-44	-11	-45	133
12	122	33	194	228	256	117	100	83	-22	-72	-167	-161	-172	-200	-178	-167	-172	-133	-117	0	206	239	144	228	16	256
13	278	161	183	150	39	83	172	61	-17	-61	-122	-172	-172	-161	-106	-167	-139	-117	-67	11	228	283	211	250	34	283
14	194	222	250	122	161	267	228	189	-50	-67	-133	-144	-144	-156	-111	-144	-161	-117	-63	44	322	272	244	183	58	322
15	72	117	178	183	117	122	94	-39	-106	-111	-94	-61	-111	-156	-161	-111	-106	-56	-44	-50	-17	6	83	44	-9	183
16	117	128	100	78	183	156	122	22	-67	-83	-94	-128	-133	-150	-139	-128	-117	-94	-78	22	250	317	200	144	26	317
17	256	150	172	211	222	156	11	-67	-89	-111	-117	-144	-144	-144	-122	-128	-122	-100	-89	33	278	333	200	267	38	333
18	194	89	67	83	100	144	-11	-67	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	-50	17	6	-22	0	-25	194
19	117	156	94	44	44	56	-11	-56	-72	-89	-78	-67	-111	-150	-167	-167	-133	-128	-94	106	250	267	328	272	17	328
20	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	-72	-150	-761	-378	-461	-500	()
21	-433	-194	94	33	83	50	-56	-44	-117	-122	-172	-178	-200	-117	-172	-111	-50	-33	-44	-50	-28	17	94	111	-68	111
22	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	(PF)	-17	6	28	39	33	()	39
23	22	83	56	72	44	61	50	-22	-56	-94	-128	-72	-117	-89	-67	-122	-144	-67	-61	-33	-83	-189	-733	-183	-78	83
24	-17	17	172	133	150	33	50	-67	-89	-67	-139	-133	-83	-61	-133	-100	-156	-122	-11	172	211	211	122	-3	211	119
25	-67	22	56	150	194	194	22	-44	-228	-106	-139	-106	-133	-139	-167	-156	-100	-44	0	-17	11	6	11	22	-31	194
26	50	33	50	117	28	22	44	28	-83	-100	-117	-139	-28	-78	-117	-81	-89	-67	-67	0	44	17	33	78	-12	117
27	50	83	28	11	39	17	-39	-67	-67	-94	-144	-83	-78	-78	-72	-83	-111	-67	-50	-11	0	50	111	133	-22	133
28	111	94	89	128	144	144	94	67	-72	-106	-122	-139	-128	-150	-117	-61	-33	-111	44	133	294	200	50	22	294	294
29	206	133	144	67	139	206	150	72	-22	-72	-106	-150	-183	-178	-156	-144	-94	-172	-83	11	194	44	67	17	4	206
30	83	106	139	117	172	-233	61	-39	-61	-78	-100	-144	-94	-178	-89	-83	-22	-72	-67	117	50	50	72	150	0	172
31	111	111	139	106	28	22	-39	-111	-133	-317	-161	-150	-172	-178	-145	-120	-83	-39	-267	-200	-289	-256	-383	11	-98	139
AV	90	70	104	121	131	103	47	-83	-98	-130	-131	-133	-148	-145	-150	-112	-82	-74	-15	49	82	46	62	62	-13	
PK	278	278	289	333	344	256	267	228	189	-17	-44	-67	-61	28	28	-67	-61	-22	133	67	117	322	333	328	272	344
PK	-433	-422	-128	-6	6	-233	-83	-128	-228	-206	-317	-206	-221	-672	-378	-706	-172	-172	-267	-328	-678	-733	-500			

MONTHLY MINIMUM = -761

AV	90	70	104	121	131	103	47	-23	-83	-98	-130	-131	-133	-148	-145	-150	-112	-82	-74	15	49	82	46	62	-13	
PK	278	278	289	333	344	267	228	189	-17	-44	-67	-61	28	28	-67	-61	-22	133	67	117	322	333	328	272		344
MN	-433	-422	-128	-6	-233	-83	-128	-228	-206	-317	-206	-211	-472	-378	-706	-172	-172	-172	-267	-328	-761	-378	-733	-500		

PRECIPITATION
CM*100

CB TRACT
MMI A028
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO.

	HOUR (LOCAL STANDARD TIME)																								TOTAL
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8							8					10	10												28
9																									
10																									
11																									
12																									
13																									
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26																									
27																									
28																									
29																									
30																									
31																									
TL	5	5		3	3		8		25	33	13	36				8	193	43	41	3	8		5		427

STABILITY CLASS USING DT/DZ
DT 60-10M
WS 10M

CB-TRACT
TRAILER AA23
JULY 1983
OCCIDENTAL OIL SHALE, INC.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	AVE
1	F	F	F	F	F	F	F	D	C	D	B	D	C	D	D	D	C	B	D	E	E	E	E	E	D
2	E	H	E	E	E	E	E	D	C	D	B	D	D	D	D	D	D	D	B	D	D	E	A	D	D
3	D	E	E	E	E	E	E	D	B	D	B	C	D	D	D	D	C	D	D	B	B	A	E	E	D
4	(	)	F	F	F	F	F	D	A	A	A	A	A	A	A	A	C	A	A	E	E	D	E	E	C
5	F	F	F	F	F	F	F	E	D	A	A	A	A	A	A	B	B	B	E	E	F	F	F	F	D
6	F	F	F	F	F	F	F	E	D	A	A	A	A	A	A	B	B	B	E	E	F	F	F	F	D
7	E	F	F	F	F	F	F	E	D	D	H	B	B	B	B	B	B	B	E	E	F	F	F	F	D
8	F	E	E	E	E	E	E	D	C	B	B	B	B	B	B	B	C	B	E	E	F	F	F	F	D
9	E	E	E	E	E	E	E	C	A	A	A	B	A	A	A	C	B	B	D	E	E	E	E	E	D
10	E	E	E	E	E	E	E	C	A	A	A	B	A	A	A	C	B	B	D	E	E	E	E	E	C
11	E	F	F	F	F	F	F	D	C	A	A	A	A	A	A	C	B	B	B	E	E	E	E	E	C
12	F	F	F	F	F	F	F	(	)	(	)	(	)	(	)	(	A	B	A	E	E	E	E	E	C
13	F	F	F	F	F	F	F	(	)	(	)	(	)	(	)	(	A	B	A	E	E	E	E	E	C
14	F	F	F	F	F	F	F	F	E	D	A	A	A	A	A	B	B	B	A	E	E	E	E	E	D
15	D	D	D	D	D	D	D	F	D	C	B	B	C	B	B	D	B	D	D	E	E	E	E	E	D
16	F	F	F	F	F	F	F	E	D	C	D	D	D	D	D	C	C	C	C	E	E	E	E	E	D
17	F	F	F	F	F	F	F	E	D	C	D	D	D	D	D	C	C	C	B	E	E	E	E	E	D
18	E	E	E	E	E	E	E	D	C	D	(	)	(	(	(	B	B	B	B	E	E	E	E	E	D
19	F	F	F	F	F	F	F	E	D	R	C	D	A	(	)	(	B	B	(	E	E	E	E	E	D
20	(	)	(	)	(	)	(	)	(	)	(	)	(	)	(	)	(	(	(	D	B	A	B	A	(
21	A	A	F	E	F	E	D	(	A	A	A	A	B	A	A	(	D	D	D	E	E	E	E	E	(
22	(	)	(	)	(	)	(	)	(	)	(	)	(	)	(	)	(	(	(	D	D	E	E	E	(
23	E	F	F	F	F	F	F	E	D	B	B	D	B	B	D	B	B	B	D	E	E	E	E	E	(
24	E	F	F	F	F	F	F	E	D	H	A	A	C	D	B	A	B	A	A	E	E	E	E	E	D
25	D	E	E	E	E	E	E	D	B	B	B	B	B	B	B	B	B	B	A	E	E	E	E	E	D
26	E	E	E	E	E	E	E	D	C	H	B	B	E	E	E	H	H	H	D	E	E	E	E	E	D
27	E	F	F	F	F	F	F	D	D	B	B	C	C	C	C	B	D	B	D	E	E	E	E	E	D
28	F	F	F	F	F	F	F	E	D	B	H	A	B	A	B	A	B	D	B	E	E	E	E	E	D
29	F	F	F	F	F	F	F	E	D	C	A	A	A	B	A	B	A	C	E	E	E	E	E	E	D
30	F	F	F	F	F	F	F	E	D	C	A	A	A	B	A	B	C	E	E	E	E	E	E	E	D
31	F	F	F	F	F	F	F	E	D	B	B	B	B	A	B	H	C	D	A	A	E	E	E	E	C
AVE	E	E	E	E	E	E	E	D	C	C	B	B	B	B	C	B	B	C	C	E	E	E	E	E	D

TOTAL OCCURRENCES: A= 82 B=115 C= 44 D=135 E=177 F=141 HOURS MISSING= 50

NITRIC OXIDE (NO)

PERIOD(7/01/83 TO 7/31/83)

TRAILER AB23

CONCENTRATION MAX UG/M ³	N		NE		ENE		E		ESE		SE		SSE		WIND DIRECTION		SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	2	2	1	1	1	1	2	1	1	1

GT 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60. - 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55. - 60. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50. - 55. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45. - 50. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40. - 45. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35. - 40. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30. - 35. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25. - 30. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20. - 25. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15. - 20. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10. - 15. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. - 10. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT 5. :	17	6	10	15	25	57	72	81	140	84	24	14	25	33	31	11	701								
TOTAL :	17	6	10	15	25	57	72	81	140	84	24	14	25	33	31	11	701								

MEAN
CONC.

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

OXIDES OF NITROGEN (NOx)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(7/01/83 TO 7/31/83)

CONCENTRATION MAX UG/M**3	TRAILER			AB23			WIND DIRECTION			W			NW			CALM			TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL	
GT 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60. - 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55. - 60. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50. - 55. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45. - 50. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40. - 45. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35. - 40. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30. - 35. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25. - 30. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20. - 25. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15. - 20. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10. - 15. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. - 10. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT 5. :	17	6	10	15	25	57	72	56	81	140	84	24	14	25	33	31	11	701	
TOTAL :	17	6	10	15	25	57	72	56	81	140	84	24	14	25	33	31	11	701	
MEAN CONC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0 = NO OBSERVATIONS

NITROGEN DIOXIDE (NO2)

CATHEDRAL BLUFFS SHALE OIL

TRAILER AB23 PERIOD(7/01/83 TO 7/31/83)

CONCENTRATION MAX UG/M ³	WIND DIRECTION																TOTAL	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		CALM
GT 65. :	1	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	0	
60. - 65. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
55. - 60. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
50. - 55. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
45. - 50. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
40. - 45. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
35. - 40. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30. - 35. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25. - 30. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20. - 25. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15. - 20. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10. - 15. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5. - 10. :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
LT 5. :	17	6	10	15	25	57	72	56	81	140	84	24	14	25	33	31	11	701
TOTAL :	17	6	10	15	25	57	72	56	81	140	84	24	14	25	33	31	11	701
MEAN CONC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0 = NO OBSERVATIONS

CATHEDRAL BLUFFS SHALE OIL

TRAILER AB23 PERIOD(7/01/83 TO 7/31/83)

WIND DIRECTION

CONCENTRATION

MAX

UG/M003

GT 140.

• - 140.

• - 130.

• - 120.

. - 110.

• - 100.

• - 90.

80.

• - 70.

• - 60.

• - 50.

• - 40 •

• - 30.

LT 20.

TOTAL

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

111

64

(10/19/83-KPI)

NO OBSERVATIONS

CARBON MONOXIDE (CO)

CATHEDRAL BLUFFS SHALE OIL

THAILER AR23 PERIOD(7/01/83 TO 7/31/83)

WIND DIRECTION

| CONCENTRATION
MAX
UG/M ³ | N | | NE | | ENE | | E | | ESE | | S | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL | |
|---|----|----|----|----|-----|----|----|-----|-----|-----|----|----|-----|----|----|----|-----|-----|----|----|-----|----|----|----|-----|----|------|----|-------|----|
| | 68 | 45 | 68 | 68 | 68 | 68 | 68 | 137 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| GT 1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1200. -1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1100. -1200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1000. -1100. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 900. -1000. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 800. - 900. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 700. - 800. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 600. - 700. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500. - 600. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400. - 500. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300. - 400. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200. - 300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100. - 200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| LT 100. : | 17 | 6 | 10 | 15 | 25 | 57 | 71 | 56 | 81 | 140 | 83 | 24 | 14 | 25 | 33 | 31 | 11 | 699 | | | | | | | | | | | | |
| TOTAL : | 17 | 6 | 10 | 15 | 25 | 57 | 72 | 56 | 81 | 140 | 83 | 24 | 14 | 25 | 33 | 31 | 11 | 700 | | | | | | | | | | | | |
| MEAN
CONC. | 45 | 32 | 50 | 50 | 60 | 57 | 54 | 55 | 48 | 43 | 44 | 42 | 42 | 40 | 39 | 43 | 41 | 47 | | | | | | | | | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

SULFUR DIOXIDE. (SO2)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(7/01/83 TO 7/31/83)

TRAILER AR23

| CONCENTRATION
MAX
UG/M ³ | WIND DIRECTION | | | | | | | | | | | | | | | | NW CALM | | | | TOTAL |
|---|----------------|-----|----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|---------|--|--|--|-------|
| | N | NNE | NE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | 7 | 2 | | | | |
| GT 13. : | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | | | |
| 12. - 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 11. - 12. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 10. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | | | |
| 9. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 8. - 9. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 7. - 8. : | 0 | 0 | 0 | 2 | 5 | 5 | 1 | 3 | 9 | 9 | 1 | 0 | 1 | 1 | 2 | 0 | 39 | | | | |
| 6. - 7. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 5. - 6. : | 6 | 0 | 5 | 6 | 12 | 20 | 15 | 20 | 34 | 21 | 8 | 3 | 1 | 6 | 6 | 0 | 192 | | | | |
| 4. - 5. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 3. - 4. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 2. - 3. : | 9 | 2 | 4 | 7 | 18 | 27 | 29 | 36 | 55 | 32 | 8 | 5 | 9 | 11 | 12 | 4 | 275 | | | | |
| 1. - 2. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| LT 1. : | 2 | 4 | 1 | 2 | 4 | 14 | 10 | 11 | 22 | 43 | 20 | 7 | 6 | 14 | 15 | 11 | 193 | | | | |
| TOTAL : | 17 | 6 | 10 | 15 | 25 | 57 | 56 | 81 | 141 | 84 | 24 | 14 | 25 | 33 | 31 | 11 | 702 | | | | |
| MEAN
CONC. | 3 | 0 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 2 | 2 | 0 | 2 | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

HYDROGEN SULFIDE (H2S)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(7/01/83 TO 7/31/83)

TRAILER AR23

| CONCENTRATION
MAX
UG/M**3 | N | | NE | | ENE | | E | | ESE | | SE | SSE | | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
|---------------------------------|----|---|----|----|-----|----|----|----|-----|-----|----|-----|----|----|-----|----|-----|-----|-----|------|-------|
| | 2 | 2 | 4 | 4 | 4 | 4 | 2 | 2 | 4 | 4 | 2 | 4 | 4 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 2 |
| GT 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. - 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. - 12. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. - 9. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7. - 8. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. - 7. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 6. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 1 | 1 | 0 | 0 | 0 | 12 |
| 4. - 5. : | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 5 | 15 | 7 | 5 | 7 | 5 | 1 | 2 | 5 | 9 | 0 | 53 |
| 3. - 4. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. - 3. : | 4 | 1 | 5 | 6 | 3 | 7 | 7 | 7 | 3 | 20 | 36 | 21 | 4 | 4 | 4 | 4 | 4 | 8 | 11 | 2 | 146 |
| 1. - 2. : | 2 | 2 | 2 | 4 | 5 | 10 | 13 | 25 | 18 | 26 | 16 | 8 | 0 | 2 | 6 | 1 | 4 | 1 | 4 | 5 | 144 |
| LT 1. : | 10 | 3 | 2 | 4 | 17 | 39 | 51 | 27 | 38 | 64 | 32 | 6 | 8 | 16 | 13 | 10 | 5 | 3 | 45 | 345 | |
| TOTAL : | 16 | 6 | 10 | 15 | 25 | 57 | 71 | 56 | 81 | 141 | 85 | 24 | 14 | 25 | 32 | 31 | 11 | 700 | | | |
| MEAN
CONC. | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

10 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(7/01/83 TO 7/31/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | | TOTAL | |
|---------------------------------|----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|-----|-------|------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | | VAR |
| 3 | 1 | 4 | 2 | 5 | 4 | 4 | 4 | 4 | 7 | 8 | 8 | 8 | 2 | 6 | 7 | 5 | 0 | |
| 67 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 : | 0 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 : | 4 |
| 5. - 8. : | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 13 | 36 | 12 | 3 | 0 | 7 | 2 | 1 | 0 : | 75 |
| 3. - 5. : | 1 | 0 | 1 | 0 | 0 | 4 | 8 | 18 | 34 | 53 | 21 | 4 | 0 | 4 | 7 | 6 | 0 : | 161 |
| 1. - 3. : | 11 | 3 | 3 | 7 | 18 | 45 | 52 | 27 | 22 | 34 | 44 | 10 | 9 | 11 | 16 | 18 | 0 : | 330 |
| LT 1. : | 5 | 3 | 6 | 8 | 6 | 8 | 12 | 11 | 12 | 18 | 7 | 6 | 5 | 3 | 8 | 6 | 0 : | 124 |
| TOTAL : | 17 | 6 | 10 | 15 | 25 | 57 | 72 | 56 | 81 | 142 | 86 | 24 | 14 | 25 | 33 | 31 | 0 | 694 |
| PERCENT | 2. | 1. | 1. | 2. | 4. | 8. | 10. | 8. | 12. | 20. | 12. | 3. | 2. | 4. | 5. | 4. | 0. | 100. |

0 = NO OBSERVATIONS

11 1 268

(10/19/83-RPI)

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

30 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(7/01/83 TO 7/31/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|----|------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW |
| 4 | 3 | 5 | 3 | 7 | 6 | 7 | 9 | 10 | 10 | 12 | 12 | 4 | 9 | 10 | 7 | 0 |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 28 | 7 | 1 | 0 | 5 | 1 | 0 | 55 |
| 5. - 8. : | 0 | 0 | 1 | 0 | 1 | 3 | 8 | 11 | 29 | 46 | 11 | 2 | 0 | 4 | 5 | 124 |
| 3. - 5. : | 5 | 1 | 1 | 1 | 6 | 19 | 34 | 19 | 24 | 38 | 21 | 9 | 4 | 7 | 5 | 200 |
| 1. - 3. : | 7 | 4 | 4 | 6 | 9 | 32 | 34 | 16 | 23 | 16 | 19 | 7 | 5 | 12 | 15 | 228 |
| LT 1. : | 5 | 2 | 7 | 2 | 10 | 5 | 2 | 8 | 10 | 4 | 5 | 7 | 6 | 3 | 6 | 89 |
| TOTAL : | 17 | 7 | 13 | 9 | 26 | 59 | 78 | 55 | 98 | 132 | 65 | 27 | 15 | 31 | 32 | 699 |
| PERCENT | 2. | 1. | 2. | 1. | 4. | 8. | 11. | 8. | 14. | 19. | 9. | 4. | 2. | 4. | 5. | 100. |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

60 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(7/01/83 TO 7/31/83)

WIND DIRECTION

| WIND SPEED
MAX
METERS/SEC | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
|---------------------------------|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|----|-----|-----|-------|
| 5 | 3 | 6 | 3 | 8 | 6 | 8 | 11 | 11 | 11 | 12 | 14 | 4 | 10 | 8 | 8 | 0 | 0 | |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 : | 9 |
| 8. - 11. : | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 19 | 37 | 9 | 2 | 0 | 8 | 1 | 1 | 0 | 0 : | 79 |
| 5. - 8. : | 1 | 0 | 1 | 0 | 2 | 12 | 20 | 28 | 50 | 13 | 2 | 0 | 2 | 4 | 6 | 0 | 0 : | 141 |
| 3. - 5. : | 4 | 2 | 1 | 1 | 3 | 9 | 36 | 28 | 27 | 26 | 22 | 4 | 9 | 8 | 8 | 7 | 0 : | 195 |
| 1. - 3. : | 12 | 2 | 5 | 7 | 5 | 15 | 26 | 25 | 29 | 17 | 10 | 11 | 7 | 8 | 18 | 19 | 0 : | 216 |
| LT 1. : | 6 | 1 | 3 | 2 | 5 | 7 | 5 | 2 | 8 | 3 | 2 | 4 | 5 | 3 | 3 | 3 | 0 : | 62 |
| TOTAL : | 23 | 5 | 10 | 10 | 14 | 33 | 80 | 76 | 113 | 136 | 58 | 24 | 21 | 29 | 34 | 36 | 0 | 702 |
| PERCENT | 3. | 1. | 1. | 1. | 2. | 5. | 11. | 11. | 16. | 19. | 8. | 3. | 3. | 4. | 5. | 5. | 0. | 100. |

0 = NO OBSERVATIONS

FIVE MAXIMUM SLIDING AVERAGE
UG/M**3

C-B TRACT
SITE AR23
JULY 1983
CATHEDRAL BLUFFS SHALE OIL CO

| COMPONENT | AVG. TIME | RANK | DAY | HOUR (REG) | VALUE |
|-----------|-----------|------|-----|------------|-------|
| S02 | 3 HR | 1 | 27 | 11 | 8.7 |
| | | 2 | 28 | 16 | 8.7 |
| | | 3 | 29 | 14 | 8.7 |
| | | 4 | 26 | 4 | 7.9 |
| | | 5 | 29 | 17 | 7.9 |
| S02 | 24 HR | 1 | 26 | 2 | 6.5 |
| | | 2 | 27 | 9 | 6.4 |
| | | 3 | 29 | 1 | 6.4 |
| | | 4 | 13 | 18 | 4.7 |
| | | 5 | 24 | 18 | 4.6 |
| C0 | 1 HR | 1 | 28 | 8 | 140.0 |
| | | 2 | 12 | 18 | 70.0 |
| | | 3 | 21 | 19 | 70.0 |
| | | 4 | 21 | 20 | 70.0 |
| | | 5 | 21 | 20 | 70.0 |
| C0 | 8 HR | 1 | 28 | 1 | 80.0 |
| | | 2 | 22 | 18 | 70.0 |
| | | 3 | 23 | 2 | 70.0 |
| | | 4 | 23 | 10 | 70.0 |
| | | 5 | 23 | 18 | 70.0 |
| 03 | 1 HR | 1 | 11 | 16 | 117.7 |
| | | 2 | 15 | 17 | 111.8 |
| | | 3 | 15 | 13 | 111.9 |
| | | 4 | 4 | 16 | 109.9 |
| | | 5 | 4 | 17 | 107.9 |
| PART | 24 HR | 1 | 5 | 1 | 34.3 |
| | | 2 | 17 | 1 | 26.0 |
| | | 3 | 13 | 1 | 25.4 |
| | | 4 | 21 | 1 | 20.1 |
| | | 5 | 1 | 1 | 19.2 |

DATA ACQUISITION INSTRUMENT EFFICIENCY
CATHEDRAL BLUFFS SHALE OIL COMPANY
A.Q. TRAILER AB23

JULY 1983

GASEOUS
PARAMETERS

NOX: 95 %

NO: 95

NO2: 95

O3: 95

CO: 95

SO2: 95

H2S: 95

PARTICULATES: 100 %

METEOROLOGICAL
PARAMETERS

WIND SPEED

10 M: 95 %

30 M: 95

60 M: 95

WIND DIRECTION

10 M: 95

30 M: 95

60 M: 95

SIGMA HORIZONTAL

WIND DIRECTION

10 M: 95

30 M: 95

60 M: 95

TEMPERATURE

10 M: 95

30 M: 95

60 M: 95

DELTA TEMPERATURE: 95

RELATIVE HUMIDITY: 95

SOLAR RADIATION: 95

BAROMETRIC PRESSURE: 95

PRECIPITATION: 95

SEPTEMBER

OCTOBER

NOVEMBER

AUGUST

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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES, STATION AB23

DATA ACQUISITION INSTRUMENT EFFICIENCY, STATION AB23.

NITRIC OXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOURLY (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| 3 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 10 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 12 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 14 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 16 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 17 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 18 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 19 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 20 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 21 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 22 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 23 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 24 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 25 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 26 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 28 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 29 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 30 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 31 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| AV | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| PK | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 |

OXIDES OF NITROGEN
(UG/M3)

CB-TRACT
TRAILER AB23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

1
HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 4 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 1 |
| 4 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 2 | 2 | 2 | 1 |
| 5 | 2 | 2 | 0 | 0 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 2 | 2 | 2 | 1 |
| 6 | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 2 | 2 | 2 | 1 |
| 7 | 2 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8 | 0 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 9 | 0 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 10 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| 11 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 12 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 13 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 14 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 15 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 16 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 17 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 18 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 19 | 6 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 20 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 21 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 22 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 23 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 24 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 25 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 26 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 27 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 28 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 29 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 30 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 31 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| AV | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| PK | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 |

NITROGEN DIOXIDE
(UG/M3)

CR-THACT
TRAILER AR23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOURLY (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 5 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| AV | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| PK | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 2 | 6 |

OZONE
(UG/H3)CH-TRACT
TRAILER AB23
AUG 1983

CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|----|----|----|----|----|----|----|----|----|-----|------|------|-----|-----|-----|------|------|-----|-----|----|----|----|----|----|-----|------|----|
| 1 | 57 | 61 | 61 | 55 | 55 | 61 | 63 | 61 | 76 | 82 | 86 | 94 | 96 | 100 | 90 | 88 | 88 | 88 | 82 | 74 | 63 | 59 | 61 | 61 | 73 | 100 | |
| 2 | 55 | 65 | 63 | 69 | 63 | 69 | 47 | 45 | 65 | 84 | (CA) | (CA) | | 90 | 94 | 94 | 94 | 86 | 82 | 71 | 65 | 67 | 73 | 71 | 72 | 94 | |
| 3 | 65 | 69 | 69 | 61 | 61 | 49 | 65 | 69 | 76 | 92 | 96 | 96 | 92 | 96 | 92 | 94 | 84 | 84 | 82 | 71 | 65 | 73 | 71 | 73 | 76 | 96 | |
| 4 | 65 | 69 | 65 | 67 | 71 | 65 | 61 | 55 | 67 | 76 | 92 | 92 | 86 | 80 | 80 | 90 | 88 | 88 | 76 | 74 | 67 | 74 | 69 | 75 | 92 | | |
| 5 | 63 | 57 | 61 | 61 | 63 | 65 | 63 | 71 | 76 | 88 | 100 | 98 | 106 | 108 | 106 | 104 | 96 | 94 | 86 | 73 | 78 | 78 | 78 | 81 | 108 | | |
| 6 | 86 | 86 | 84 | 73 | 76 | 71 | 61 | 69 | 74 | 80 | 84 | 90 | 92 | 98 | 102 | 104 | 120 | 114 | 102 | 90 | 76 | 73 | 78 | 73 | 86 | 120 | |
| 7 | 65 | 71 | 71 | 80 | 78 | 73 | 71 | 90 | 98 | 100 | 100 | 100 | 102 | 104 | 104 | 102 | 104 | 102 | 98 | 80 | 76 | 73 | 78 | 81 | 108 | | |
| 8 | 71 | 90 | 88 | 80 | 76 | 82 | 74 | 76 | 82 | 102 | 102 | 102 | 100 | 96 | 86 | 67 | 74 | 84 | 69 | 43 | 65 | 65 | 71 | 65 | 80 | 104 | |
| 9 | 69 | 69 | 65 | 65 | 61 | 63 | 69 | 71 | 78 | 80 | 84 | 90 | 92 | 90 | 86 | 84 | 84 | 82 | 69 | 61 | 61 | 65 | 59 | 51 | 73 | 92 | |
| 10 | 67 | 63 | 69 | 67 | 65 | 69 | 63 | 65 | 80 | 80 | 86 | 90 | 96 | 94 | 88 | 82 | 82 | 78 | 71 | 80 | 94 | 98 | 86 | 86 | 79 | 98 | |
| 11 | 73 | 80 | 73 | 69 | 69 | 76 | 67 | 61 | 88 | 98 | 98 | 100 | 98 | 98 | 98 | 98 | 100 | 86 | 84 | 80 | 63 | 53 | 55 | 37 | 79 | 100 | |
| 12 | 20 | 16 | 29 | 35 | 29 | 22 | 25 | 24 | 55 | 63 | 67 | 82 | 88 | 84 | 74 | 67 | 74 | 71 | 69 | 57 | 39 | 61 | 51 | 47 | 52 | 88 | |
| 13 | 43 | 45 | 41 | 47 | 29 | 27 | 25 | 37 | 45 | 57 | 76 | 78 | 76 | 78 | 80 | 80 | 84 | 86 | 78 | 63 | 51 | 59 | 61 | 67 | 59 | 86 | |
| 14 | 63 | 69 | 78 | 73 | 76 | 76 | 57 | 57 | 76 | 82 | 86 | 84 | 65 | 67 | 55 | 37 | 39 | 41 | 39 | 35 | 43 | 43 | 37 | 35 | 59 | 86 | |
| 15 | 31 | 33 | 27 | 24 | 31 | 39 | 39 | 41 | 49 | 59 | 69 | 84 | 90 | 92 | 90 | 88 | 92 | 98 | 94 | 84 | 71 | 71 | 73 | 76 | 71 | 63 | 92 |
| 16 | 71 | 76 | 55 | 61 | 71 | 65 | 51 | 69 | 84 | 86 | 88 | 92 | 90 | 90 | 88 | 92 | 98 | 94 | 84 | 80 | 63 | 65 | 69 | 49 | 76 | 98 | |
| 17 | 65 | 63 | 61 | 57 | 49 | 43 | 51 | 49 | 69 | 80 | 80 | 80 | 82 | 82 | 86 | 88 | 90 | 90 | 82 | 69 | 69 | 69 | 71 | 59 | 70 | 90 | |
| 18 | 47 | 43 | 63 | 71 | 59 | 49 | 49 | 59 | 73 | 74 | 78 | 80 | 82 | 84 | 86 | 86 | 86 | 98 | 108 | 90 | 82 | 74 | 69 | 69 | 73 | 108 | |
| 19 | 65 | 61 | 63 | 59 | 57 | 53 | 55 | 65 | 74 | 82 | 106 | 98 | 94 | 94 | 90 | 88 | 86 | 86 | 80 | 73 | 82 | 82 | 73 | 65 | 76 | 106 | |
| 20 | 57 | 59 | 51 | 51 | 51 | 47 | 49 | 53 | 63 | 61 | 57 | 59 | 59 | 61 | 61 | 61 | 63 | 63 | 59 | 47 | 43 | 49 | 47 | 45 | 55 | 63 | |
| 21 | 51 | 55 | 51 | 49 | 55 | 49 | 45 | 41 | 47 | 59 | 67 | 67 | 67 | 67 | 69 | 69 | 69 | 67 | 59 | 55 | 59 | 61 | 57 | 58 | 69 | | |
| 22 | 53 | 57 | 51 | 45 | 45 | 45 | 43 | 41 | 45 | 55 | 73 | 74 | 73 | 74 | 73 | 76 | 78 | 76 | 74 | 61 | 63 | 63 | 73 | 67 | 62 | 78 | |
| 23 | 63 | 63 | 63 | 63 | 57 | 57 | 53 | 53 | 67 | 69 | 76 | 78 | 74 | 76 | 78 | 78 | 80 | 80 | 74 | 65 | 65 | 67 | 74 | 76 | 69 | 80 | |
| 24 | 71 | 69 | 69 | 69 | 69 | 67 | 57 | 57 | 65 | 73 | 78 | 82 | 80 | 84 | 84 | 78 | 73 | 73 | 69 | 65 | 63 | 63 | 61 | 63 | 70 | 84 | |
| 25 | 53 | 51 | 51 | 49 | 53 | 57 | 49 | 51 | 71 | 74 | 78 | 80 | 78 | 78 | 78 | 76 | 76 | 76 | 74 | 71 | 71 | 69 | 61 | 61 | 66 | 80 | |
| 26 | 59 | 63 | 61 | 59 | 59 | 59 | 57 | 57 | 61 | 71 | 78 | 78 | 78 | 76 | 74 | 78 | 80 | 78 | 76 | 67 | 53 | 61 | 59 | 65 | 67 | 80 | |
| 27 | 63 | 63 | 71 | 73 | 67 | 65 | 55 | 53 | 51 | 74 | 80 | 84 | 80 | 78 | 78 | 78 | 76 | 76 | 71 | 59 | 67 | 65 | 63 | 63 | 69 | 84 | |
| 28 | 63 | 61 | 61 | 61 | 59 | 55 | 55 | 59 | 63 | 73 | 76 | 78 | 76 | 73 | 76 | 78 | 74 | 76 | 80 | 76 | 71 | 63 | 61 | 51 | 67 | 80 | |
| 29 | 49 | 51 | 57 | 53 | 53 | 61 | 61 | 67 | 49 | 84 | 88 | 84 | 88 | 84 | 82 | (CA) | (CA) | 80 | 69 | 69 | 57 | 43 | 67 | 71 | 67 | 88 | |
| 30 | 74 | 74 | 63 | 65 | 63 | 67 | 63 | 63 | 73 | 86 | 86 | 86 | 86 | 86 | 82 | 84 | 76 | 65 | 71 | 55 | 51 | 51 | 53 | 57 | 69 | 86 | |
| 31 | 49 | 51 | 61 | 65 | 57 | 61 | 55 | 51 | 55 | 67 | 86 | 92 | 88 | 88 | 88 | 86 | 84 | 84 | 53 | 55 | 73 | 71 | 73 | 69 | 69 | 92 | |
| AV | 59 | 61 | 61 | 60 | 59 | 58 | 55 | 57 | 67 | 77 | 83 | 86 | 85 | 86 | 84 | 82 | 83 | 82 | 76 | 67 | 65 | 65 | 66 | 63 | 70 | | |
| PK | 84 | 90 | 88 | 80 | 78 | 82 | 74 | 90 | 98 | 102 | 106 | 102 | 106 | 108 | 106 | 104 | 120 | 114 | 108 | 90 | 94 | 98 | 86 | 86 | | 120 | |

CB-TRACT
TRAILER AB23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)[illegible]

SULFUR DIOXIDE
(UG/M3)

CB-TRACT
TRAILER AR23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEN | |
|-----|----|----|----|----|----|----|----|----|------|------|------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|----|
| 1 | 5 | 3 | 5 | 5 | 5 | 3 | 5 | 5 | (CA) | (CA) | (CA) | (CA) | 13 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 13 | |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 5 | |
| 5 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | |
| 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 8 | |
| 7 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 8 | |
| 8 | 5 | 3 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 8 | |
| 9 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 8 | |
| 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 7 | 10 | |
| 11 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 8 | |
| 12 | 0 | 3 | 0 | 0 | 0 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 3 | |
| 13 | 0 | 3 | 5 | 3 | 5 | 8 | 13 | 13 | 10 | 13 | 10 | 13 | 10 | 8 | 10 | 10 | 13 | 10 | 10 | 8 | 10 | 8 | 8 | 8 | 9 | 13 | |
| 14 | 3 | 5 | 10 | 13 | 10 | 10 | 10 | 10 | 8 | 8 | 5 | 5 | 5 | 8 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 9 | 13 | |
| 15 | 5 | 10 | 13 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 13 | 10 | 10 | 8 | 10 | 8 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 13 |
| 16 | 10 | 13 | 13 | 13 | 10 | 10 | 8 | 5 | 8 | 10 | 8 | 10 | 16 | 3 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 16 | |
| 17 | 10 | 10 | 10 | 10 | 8 | 8 | 5 | 8 | 10 | 8 | 8 | 10 | 16 | 3 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 16 | |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (CA) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| AV | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 4 | 3 | 3 | 4 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 16 | |
| PK | 10 | 13 | 13 | 13 | 10 | 13 | 13 | 13 | 10 | 13 | 10 | 13 | 16 | 13 | 10 | 10 | 10 | 13 | 10 | 10 | 13 | 10 | 10 | 10 | 10 | 3 | 16 |

HYDROGEN SULFIDE
(UG/M3)

CR-TRACT
TRAILER AB23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

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AVE
PEAK

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|------|---|---|---|---|---|---|---|---|---|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (CA) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| AVE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| PEAK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

PARTICULATE DATA
UG/M3

C-B TRACT
AUG 1983
OCCIDENTAL OIL SHALE, INC.

| DAY | AH20 | AH23 | STATION
AH26 | AH42 | AH56 |
|------|------|------|-----------------|------|------|
| 2 | () | 14.8 | () | () | () |
| 6 | () | 17.4 | () | () | () |
| 10 | () | 27.8 | () | () | () |
| 14 | () | 16 | () | () | () |
| 18 | () | 17.8 | () | () | () |
| 22 | () | 21.9 | () | () | () |
| 26 | () | 21.5 | () | () | () |
| 30 | () | 17.2 | () | () | () |
| AVE | () | 19.3 | () | () | () |
| GM | () | 18.9 | () | () | () |
| PEAK | () | 27.8 | () | () | () |

WIND SPEED ■ 10M
METERS/SEC

CB-TRACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|------|------|---|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|-----|------|
| 1 | 2 | 0 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 0 | 2 | 1 | 2 | 5 |
| 2 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 3 | 1 | 2 | 4 |
| 3 | 1 | 2 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 1 | 2 | 3 |
| 4 | 2 | 1 | 2 | 2 | 1 | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 3 |
| 5 | 2 | 1 | 2 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 1 | 4 | 1 | 3 | 1 | 2 | 3 |
| 6 | 3 | 0 | 2 | 2 | 0 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 2 | 2 | 1 | 0 | 2 | 2 | 4 |
| 7 | 2 | 1 | 2 | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 8 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | (CM) | | | | | | | | | | | | | | | | | | |
| 9 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 4 | 2 | 2 | 2 | 4 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 2 | 4 | 2 | 2 | 2 | 4 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 4 |
| 12 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 4 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 4 |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 4 |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 4 |
| 16 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 0 | 3 | 3 | 2 | 2 | 2 | 4 |
| 17 | 2 | 1 | 1 | 1 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 4 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 0 | 0 | 2 | 2 | 4 |
| 18 | 2 | 1 | 3 | 4 | 2 | 1 | 2 | 3 | 1 | 4 | 3 | 3 | 5 | 5 | 3 | 3 | 6 | 7 | 4 | 2 | 5 | 5 | 4 | 1 | 2 | 4 |
| 19 | 1 | 1 | 2 | 1 | 0 | 2 | 1 | 1 | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 4 |
| 20 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 4 | 5 | 4 | 4 | 3 | 4 | 4 | 3 | 2 | 2 | 0 | 0 | 2 | 2 | 4 |
| 21 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 5 | 5 | 6 | 4 | 4 | 4 | 5 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 4 |
| 22 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 5 | 5 | 6 | 4 | 4 | 4 | 5 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 4 |
| 23 | 3 | 3 | 3 | 2 | 3 | 2 | (CH) | | | | | | | | | | | | | | | | | | | |
| 24 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 3 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 2 | 0 | 2 | 2 | 2 | 4 |
| 25 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 3 | 3 | 4 | 4 | 4 | 4 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 4 |
| 26 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 2 | 1 | 0 | 4 | 4 | 1 | 1 | 2 | 4 |
| 27 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 4 | 4 | 3 | 2 | 3 | 2 | (CM) | 5 | 5 | 4 | 4 | 3 | 2 | 2 | 4 |
| 28 | 0 | 0 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 1 | 2 | 2 | 4 |
| 29 | 0 | 3 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 4 | 3 | 3 | 1 | 1 | 2 | 2 | 4 |
| 30 | 3 | 1 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 2 | 1 | 1 | 2 | 2 | 4 |
| 31 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | (CH) | | | | | | | | | | | | | | | | | | |
| AV | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 7 |
| PK | 3 | 4 | 3 | 4 | 3 | 3 | 2 | 3 | 4 | 4 | 5 | 5 | 6 | 5 | 5 | 6 | 6 | 7 | 5 | 7 | 6 | 5 | 5 | 3 | 2 | 7 |

CB-THACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

WIND SPEED @ 30M
METERS/SEC

HOUR (LOCAL STANDARD TIME)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 3 | 1 | 2 | 1 | 2 | 4 | 3 | 1 | 3 | 4 | 6 | 6 | 5 | 5 | 6 | 4 | 4 | 3 | 3 | 1 | 2 | 0 | 3 | 2 | 3 | 6 |
| 1 | 3 | 3 | 0 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 2 | 3 | 3 | 2 | 4 | 3 | 4 | 3 | 2 | 4 |
| 3 | 4 | 3 | 3 | 1 | 1 | 3 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 6 | 5 | 1 | 3 | 3 | 4 |
| 1 | 2 | 4 | 2 | 4 | 2 | 3 | 0 | 1 | 1 | 1 | 1 | 0 | 3 | 2 | 2 | 2 | 3 | 4 | 4 | 2 | 0 | 4 | 4 | 4 | 5 |
| 3 | 3 | 3 | 3 | 5 | 4 | 3 | 0 | 3 | 3 | 2 | 3 | 1 | 2 | 2 | 1 | 3 | 3 | 6 | 9 | 8 | 4 | 5 | 3 | 1 | 2 |
| 2 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 0 | 2 | 4 | 4 | 2 | 5 | 4 | 4 | 4 | 5 | 2 | 2 | 4 | 4 | 4 | 2 | 5 |
| 1 | 1 | 2 | 2 | 1 | 1 | 0 | 1 | 1 | 0 | 3 | 3 | 1 | 3 | 4 | 4 | 2 | 4 | 3 | 2 | 1 | 1 | 0 | 1 | 2 | 4 |
| 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 0 | 2 | 3 | 1 | 5 | 3 | 2 | 4 | 4 | 3 | 0 | 0 | 1 | 1 | 1 | 2 | 5 |
| 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 2 | 5 | 1 | 2 | 2 | 2 | 5 |
| 0 | 2 | 2 | 1 | 2 | 2 | 0 | 3 | 3 | 3 | 2 | 5 | 4 | 4 | 5 | 4 | 4 | 4 | 3 | 2 | 1 | 1 | 1 | 2 | 2 | 5 |
| 3 | 3 | 3 | 1 | 1 | 1 | 3 | 3 | 1 | 2 | 2 | 1 | 1 | 7 | 4 | 4 | 4 | 4 | 7 | 4 | 4 | 1 | 1 | 4 | 2 | 5 |
| 2 | 2 | 2 | 2 | 0 | 1 | 3 | 2 | 1 | 5 | 6 | 6 | 3 | 3 | 5 | 5 | 8 | 5 | 4 | 2 | 7 | 8 | 5 | 2 | 3 | 6 |
| 4 | 4 | 2 | 3 | 1 | 3 | 2 | 1 | 3 | 4 | 5 | 6 | 6 | 6 | 5 | 5 | 6 | 5 | 4 | 3 | 4 | 0 | 3 | 1 | 3 | 6 |
| 5 | 5 | 2 | 2 | 2 | 1 | 0 | 3 | 2 | 2 | 3 | 7 | 5 | 5 | 4 | 4 | 6 | 5 | 4 | 4 | 4 | 0 | 8 | 4 | 3 | 7 |
| 4 | 5 | 2 | 4 | 3 | 4 | 3 | 3 | 1 | 6 | 3 | 5 | 6 | 6 | 5 | 5 | 7 | 6 | 5 | 6 | 4 | 0 | 3 | 5 | 4 | 8 |
| 3 | 3 | 3 | 4 | 3 | 4 | 3 | 2 | 3 | 3 | 4 | 6 | 6 | 5 | 5 | 5 | 5 | 6 | 5 | 6 | 4 | 5 | 3 | 3 | 4 | 6 |
| 3 | 3 | 3 | 3 | 4 | 4 | 3 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 0 | 1 | 2 | 2 | 2 | 1 | 5 | 6 | 2 | 2 | 2 | 7 |
| 2 | 2 | 3 | 3 | 1 | 1 | 3 | 4 | 3 | 2 | 4 | 0 | 5 | 4 | 5 | 4 | 3 | 3 | 8 | 4 | 4 | 6 | 2 | 1 | 4 | 4 |
| 5 | 1 | 1 | 1 | 2 | 2 | 1 | 0 | 0 | 1 | 1 | 2 | 4 | 2 | 2 | 2 | 2 | 0 | 4 | 3 | 3 | 1 | 1 | 3 | 2 | 5 |
| 1 | 1 | 1 | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 2 | 2 | 3 | 2 | 5 | 5 | 0 | 4 | 1 | 1 | 0 | 1 | 1 |
| 3 | 3 | 3 | 3 | 1 | 1 | 1 | 3 | 1 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 2 | 1 | 1 | 1 | 0 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | |

WIND SPEED @ 60M
METERS/SEC

CB-TRACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE PEAK |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|
| 1 | 3 | 3 | 1 | 1 | 2 | 3 | 3 | 2 | 3 | 4 | 6 | 7 | 6 | 5 | 7 | 4 | 4 | 3 | 3 | 2 | 3 | 1 | 3 | 3 | 3 |
| 2 | 0 | 3 | 3 | 4 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 5 | 3 | 1 | 2 | 3 | 3 | 2 | 4 | 4 | 5 | 4 | 6 | 2 | 2 |
| 3 | 3 | 4 | 3 | 3 | 5 | 4 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 1 | 3 | 2 |
| 4 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 0 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 1 | 3 | 2 |
| 6 | 1 | 1 | 1 | 2 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 4 | 3 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 7 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 1 | 3 | 2 |
| 8 | 3 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 9 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 10 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 11 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 12 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 13 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 14 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 15 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 16 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 17 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 18 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 19 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 20 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 21 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 22 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 23 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 24 | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| Average | 3 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| Peak | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |

WIND DIRECTION # 10M
DEGREES

CB-TRACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|------|
| 1 | 129 | 130 | 109 | 115 | 177 | 172 | 140 | 148 | 214 | 224 | 223 | 229 | 239 | 226 | 338 | 336 | 15 | 69 | 140 | 199 | 304 | 79 | 161 | 209 | 173 |
| 2 | 60 | 174 | 229 | 138 | 235 | 158 | 90 | 161 | (CM) | 35 | 321 | 308 | 306 | 302 | 286 | 246 | 1 | 359 | 345 | 335 | 176 | 166 | 147 | 87 | 233 |
| 3 | 116 | 139 | 103 | 118 | 148 | 176 | 137 | 94 | 79 | 189 | 238 | 208 | 294 | 308 | 128 | 221 | 209 | 155 | 184 | 176 | 157 | 124 | 126 | 126 | 157 |
| 4 | 40 | 143 | 117 | 144 | 154 | 180 | 143 | 315 | 348 | 21 | 338 | 327 | 46 | 289 | 276 | 86 | 127 | 103 | 135 | 165 | 66 | 132 | 90 | 120 | 111 |
| 5 | 160 | 107 | 107 | 210 | 207 | 104 | 161 | 516 | 348 | 330 | 328 | 323 | 327 | 320 | 2 | 0 | 9 | 66 | 100 | 245 | 148 | 128 | 139 | 138 | 75 |
| 6 | 159 | 138 | 144 | 203 | 264 | 213 | 149 | 328 | 318 | 329 | 339 | 351 | 352 | 338 | 18 | 20 | 9 | 33 | 56 | 96 | 148 | 126 | 145 | 156 | 52 |
| 7 | 159 | 168 | 160 | 173 | 180 | 150 | 131 | 185 | 231 | 328 | 224 | 224 | 186 | 172 | 175 | 166 | 196 | 165 | 186 | 211 | 142 | 182 | 241 | 192 | 181 |
| 8 | 124 | 157 | 193 | 214 | 220 | 115 | (CM) | 0 | 322 | 202 | 202 | 207 | 235 | 16 | 265 | 228 | 231 | 274 | 263 | 213 | 222 | 225 | 201 | 224 | 232 |
| 9 | 185 | 143 | 106 | 156 | 159 | 135 | 124 | (CM) | 209 | 220 | 341 | 323 | 315 | 311 | 11 | 33 | 66 | 161 | 206 | 203 | 194 | 170 | 177 | 172 | 161 |
| 10 | 196 | 102 | 145 | 188 | 207 | 130 | 101 | 82 | 354 | 219 | 224 | 234 | 233 | 202 | 290 | 330 | 340 | 71 | 151 | 184 | 97 | 19 | 109 | 152 | 150 |
| 11 | 121 | 161 | 161 | 196 | 188 | 339 | 155 | 94 | 183 | 81 | 82 | 67 | 33 | 321 | 301 | 289 | 323 | 298 | 305 | 277 | 283 | 280 | 134 | 125 | 238 |
| 12 | 13 | 84 | 110 | 92 | 119 | 250 | 222 | 121 | 68 | 39 | 63 | 5 | 28 | 324 | 269 | 235 | 233 | 227 | 242 | 247 | 242 | 211 | 219 | 225 | 209 |
| 13 | 14 | 222 | 141 | 125 | 141 | 161 | 184 | 87 | 78 | 130 | 279 | 318 | 167 | 146 | 180 | 196 | 199 | 191 | 184 | 248 | 209 | 164 | 181 | 171 | 174 |
| 14 | 15 | 111 | 183 | 268 | 221 | 185 | 164 | 207 | 104 | 117 | 193 | 180 | 238 | 232 | 230 | 227 | 225 | 241 | 231 | 271 | 233 | 133 | 150 | 148 | 201 |
| 15 | 16 | 97 | 194 | 230 | 235 | 193 | (CM) | 194 | 107 | 114 | 104 | 153 | 225 | 235 | 234 | 300 | 336 | 356 | 298 | 290 | 9 | 217 | 220 | 145 | 248 |
| 16 | 17 | 227 | 194 | 193 | 135 | 227 | 153 | 251 | 81 | 320 | 321 | 329 | 324 | 279 | 289 | 246 | 243 | 253 | 226 | 240 | 227 | 225 | 135 | 233 | 235 |
| 17 | 18 | 123 | 133 | 220 | 164 | 205 | 171 | 111 | 143 | 168 | 172 | 180 | 180 | 188 | 178 | 218 | 222 | 201 | 216 | 207 | 200 | 202 | 231 | 140 | 239 |
| 18 | 19 | 185 | 106 | 147 | 182 | 192 | 129 | 84 | 62 | 305 | 222 | 230 | 249 | 242 | 237 | 263 | 245 | 247 | 243 | 135 | 131 | 151 | 155 | 125 | 184 |
| 19 | 20 | 128 | 129 | 100 | 128 | 82 | 130 | 141 | 165 | 211 | 218 | 204 | 213 | 208 | 221 | 228 | 216 | 235 | 235 | 231 | 209 | 214 | 36 | 336 | 354 |
| 20 | 21 | 286 | 153 | 182 | 177 | 155 | 156 | 71 | 73 | 152 | 205 | 209 | 205 | 182 | 176 | 170 | 215 | 219 | 225 | 193 | 210 | 182 | 153 | 94 | 177 |
| 21 | 22 | 108 | 146 | 255 | 248 | 230 | 150 | 161 | 74 | 33 | 0 | 243 | 242 | 232 | 197 | 214 | 205 | 228 | 232 | 248 | 212 | 213 | 169 | 184 | 206 |
| 22 | 23 | 176 | 193 | 207 | 189 | 219 | 137 | (CM) | 180 | 215 | 212 | 204 | 202 | 208 | 214 | 187 | 208 | 225 | 239 | 242 | 221 | 220 | 207 | 214 | 205 |
| 23 | 24 | 0 | 210 | 198 | 228 | 27 | 60 | 79 | 62 | 180 | 203 | 177 | 181 | 208 | 208 | 180 | 145 | 146 | 153 | 137 | 133 | 128 | 91 | 122 | 149 |
| 24 | 25 | 109 | 133 | 121 | 109 | 114 | 123 | 101 | 79 | 223 | 209 | 218 | 218 | 214 | 217 | 232 | 205 | 187 | 182 | 174 | 176 | 168 | 116 | 116 | 164 |
| 25 | 26 | 115 | 147 | 126 | 136 | 140 | 148 | 114 | 71 | 330 | 14 | 329 | 303 | 189 | (CM) | 239 | 270 | 297 | 270 | 260 | 154 | 165 | 163 | 157 | 111 |
| 26 | 27 | 157 | 128 | 138 | 161 | 217 | 193 | 246 | 60 | 11 | 340 | 346 | 327 | 262 | (CM) | 237 | 56 | 102 | (CM) | 277 | 251 | 144 | 114 | 118 | 209 |
| 27 | 28 | 170 | 137 | 132 | 129 | 118 | 119 | 149 | 131 | 154 | 207 | 232 | 311 | 21 | 28 | 66 | 354 | 115 | 127 | 183 | 185 | 303 | 275 | 156 | 213 |
| 28 | 29 | 237 | 169 | 92 | 276 | 119 | 149 | 127 | 71 | 235 | 209 | 225 | 11 | 28 | 303 | 326 | 347 | 340 | 120 | 199 | 176 | 226 | 214 | 237 | 153 |
| 29 | 30 | 237 | 182 | 169 | 156 | 120 | 117 | 143 | 350 | 28 | 3 | 28 | 338 | 305 | 326 | 347 | 340 | 120 | 199 | 176 | 226 | 214 | 237 | 153 | 176 |
| 30 | 31 | 214 | 199 | 208 | 214 | 226 | 233 | 222 | (CM) | 28 | 327 | 339 | 28 | 303 | 326 | 4 | 329 | 306 | 259 | 219 | 207 | 239 | 210 | 240 | 158 |
| 31 | 146 | 150 | 165 | 162 | 188 | 150 | 146 | 94 | 54 | 265 | 257 | 267 | 259 | 254 | 257 | 261 | 246 | 212 | 217 | 203 | 187 | 171 | 158 | 159 | 180 |

WIND DIRECTION @ 30M
DEGREES

CB-TRACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|-----|-----|-----|------|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|------|
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 129 | 130 | 112 | 87 | 142 | 148 | 142 | 158 | 209 | 219 | 219 | 224 | 233 | 222 | 334 | 333 | 8 | 66 | 132 | 171 | 307 | 5 | 136 | 171 | 160 |
| 2 | 47 | 113 | 233 | 104 | 231 | 229 | 102 | 154 | 211 | 37 | 315 | 303 | 299 | 232 | 284 | 241 | 0 | 355 | 341 | 342 | 168 | 168 | 152 | 111 | 236 |
| 3 | 128 | 145 | 107 | 105 | 131 | 153 | 129 | 103 | 73 | 177 | 238 | 208 | 202 | 208 | 125 | 171 | 199 | 177 | 167 | 150 | 152 | 135 | 121 | 151 | 103 |
| 4 | 129 | 132 | 121 | 127 | 135 | 149 | 153 | 284 | 348 | 179 | 338 | 329 | 345 | 284 | 274 | 84 | 122 | 96 | 129 | 156 | 82 | 123 | 87 | 94 | 103 |
| 5 | 146 | 137 | 113 | 255 | 208 | 179 | 124 | 53 | 349 | 324 | 321 | 323 | 333 | 319 | 359 | 0 | 358 | 62 | 94 | 235 | 140 | 131 | 127 | 125 | 67 |
| 6 | 94 | 106 | 122 | 193 | 294 | 219 | (CM) | 324 | 316 | 328 | 338 | 349 | 353 | 334 | 117 | 17 | 11 | 30 | 53 | 83 | 142 | 126 | 141 | 150 | 36 |
| 7 | 162 | 166 | 159 | 173 | 176 | 166 | 141 | 178 | 227 | 240 | 222 | 220 | 181 | 163 | 167 | 160 | 189 | 157 | 179 | 198 | 163 | 169 | 232 | 81 | 179 |
| 8 | 107 | 130 | 146 | (CM) | 242 | 115 | 240 | 4 | 0 | 314 | 0 | 197 | 251 | 5 | 261 | 234 | 229 | 274 | 266 | 216 | 259 | 258 | 150 | 217 | 238 |
| 9 | 112 | 138 | 107 | 148 | 143 | 122 | 117 | 259 | 205 | 215 | 202 | 308 | 140 | 37 | 92 | 62 | 286 | 200 | 215 | 188 | 102 | 140 | 330 | 162 | 153 |
| 10 | 183 | 105 | 128 | 184 | 236 | 90 | 90 | 76 | 354 | 336 | 321 | 309 | 306 | 5 | 11 | 34 | 63 | 158 | 199 | 199 | 191 | 167 | 174 | 240 | 137 |
| 11 | 123 | 152 | 254 | 189 | 110 | 148 | 116 | 95 | 19 | 217 | 222 | 230 | 228 | 199 | 285 | 325 | 338 | 62 | 145 | 173 | 91 | 34 | 86 | 137 | 150 |
| 12 | 204 | 143 | 155 | 168 | 173 | 277 | 144 | 112 | 181 | 81 | 80 | 66 | 31 | 317 | 297 | 285 | 321 | 292 | 301 | 282 | 291 | 277 | 122 | 126 | 209 |
| 13 | 145 | 145 | 82 | 87 | 287 | 248 | 141 | 63 | 36 | 67 | 11 | 31 | 311 | 264 | 230 | 227 | 224 | 239 | 265 | 258 | 215 | 196 | 207 | 209 | 217 |
| 14 | 220 | 111 | 158 | 122 | 121 | 147 | 158 | 100 | 79 | 139 | 274 | 314 | 152 | 126 | 153 | 170 | 194 | 168 | 173 | 219 | 204 | 177 | 183 | 176 | 162 |
| 15 | 98 | 139 | 275 | 241 | 199 | 118 | 186 | 107 | 116 | 186 | 175 | 233 | 227 | 221 | 221 | 233 | 228 | 266 | 238 | 128 | 139 | 134 | 266 | 195 | 195 |
| 16 | 14 | 145 | 264 | 262 | 202 | (CM) | 233 | 105 | 113 | 100 | 143 | 222 | 233 | 231 | 294 | 330 | 352 | 295 | 293 | 11 | 219 | 238 | 208 | 266 | 245 |
| 17 | 242 | 208 | 175 | 121 | 243 | 121 | 250 | 71 | 314 | 314 | 330 | 316 | 278 | 284 | 243 | 237 | 248 | 218 | 238 | 231 | 229 | 122 | (CM) | 136 | 238 |
| 18 | 136 | 175 | 212 | 159 | 204 | 172 | 111 | 141 | 162 | 165 | 174 | 174 | 171 | 173 | 212 | 217 | 194 | 211 | 202 | 192 | 193 | 228 | (CM) | 243 | 184 |
| 19 | 184 | 111 | 123 | 163 | 225 | 90 | 128 | 85 | 62 | 301 | 217 | 227 | 243 | 235 | 234 | 257 | 240 | 242 | 239 | 148 | 125 | 145 | 149 | 128 | 180 |
| 20 | 123 | 133 | 110 | 127 | 92 | 112 | 136 | 174 | 209 | 213 | 199 | 209 | 203 | 216 | 224 | 213 | 228 | 231 | 226 | 210 | 213 | 22 | 331 | 354 | 187 |
| 21 | 122 | 140 | 159 | 153 | 148 | 141 | 145 | 92 | 75 | 146 | 201 | 205 | 201 | 177 | 171 | 165 | 211 | 215 | 221 | 194 | 203 | 191 | 158 | 207 | 171 |
| 22 | 102 | 122 | 275 | 265 | 251 | 166 | 145 | 80 | 39 | 3 | 237 | 237 | 259 | 193 | 212 | 202 | 222 | 227 | 242 | 217 | 209 | 180 | 172 | 179 | 204 |
| 23 | 174 | 180 | 201 | 188 | 201 | 128 | 207 | 182 | 209 | 208 | 198 | 198 | 204 | 210 | 183 | 202 | 219 | 234 | 238 | 215 | 135 | 148 | 188 | 157 | 198 |
| 24 | 108 | 119 | 112 | 107 | 109 | 123 | 112 | 103 | 219 | 204 | 214 | 215 | 209 | 212 | 228 | 200 | 182 | 176 | 169 | 167 | 165 | 132 | 128 | 162 | 157 |
| 25 | 125 | 141 | 134 | 125 | 119 | 124 | 135 | 111 | 73 | 324 | 15 | 325 | 297 | 191 | 68 | 27 | 357 | 19 | 29 | 61 | 196 | 243 | 128 | 143 | 94 |
| 26 | 156 | 161 | 159 | 136 | 164 | 180 | 249 | 59 | 10 | 336 | 339 | 322 | 260 | 189 | 235 | 266 | 293 | 265 | 259 | 142 | 157 | 156 | 151 | 145 | 199 |
| 27 | 161 | 141 | 123 | 125 | 109 | 108 | 131 | 128 | 148 | 208 | 229 | 300 | 19 | 25 | 330 | 352 | 101 | (CM) | 272 | 245 | 161 | 111 | 111 | 192 | 134 |
| 28 | 320 | 291 | 139 | 73 | 25 | 79 | 122 | 70 | 231 | 205 | 223 | 4 | 23 | 62 | 349 | 311 | 125 | 151 | 171 | 297 | 284 | 177 | 203 | 119 | 119 |
| 29 | 234 | 189 | 204 | 157 | 132 | 119 | 118 | 351 | 25 | 3 | 28 | 331 | 300 | 320 | 338 | 333 | 121 | 183 | 163 | 231 | 213 | 251 | 114 | 137 | 181 |
| 30 | 213 | 27 | 209 | (CM) | 251 | (CM) | 180 | (CM) | 38 | 326 | 332 | 28 | 300 | 325 | 5 | 324 | 303 | 265 | 219 | 180 | 137 | 196 | 276 | 354 | 290 |
| 1 | 141 | 142 | 156 | 150 | 180 | 137 | 144 | 100 | 61 | 254 | 252 | 262 | 253 | 246 | 253 | 255 | 238 | 205 | 211 | 196 | 180 | 168 | 148 | 161 | 175 |

WIND DIRECTION # 60M
DEGREES

CU-TRACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1 | 145 | 151 | 143 | 22 | 125 | 135 | 152 | 169 | 206 | 216 | 218 | 224 | 232 | 222 | 335 | 333 | 4 | 64 | 130 | 163 | 307 | 327 | 121 | 151 | 168 |
| 2 | 58 | 90 | 183 | (CA) | 222 | 246 | 249 | 166 | 190 | 51 | 319 | 305 | 301 | 232 | 286 | 243 | 359 | 355 | 344 | 0 | 164 | 173 | 161 | 137 | 243 |
| 3 | 149 | 159 | 122 | 110 | 126 | 158 | 133 | 94 | 73 | 168 | 235 | 215 | 293 | 302 | 128 | 220 | 196 | 153 | 175 | 166 | 150 | 155 | 150 | 131 | 156 |
| 4 | 131 | 139 | 138 | 124 | 143 | 147 | 159 | 199 | 339 | 30 | 345 | 334 | 47 | 290 | 275 | 82 | 124 | 98 | 130 | 157 | 101 | 131 | 132 | 96 | 118 |
| 5 | 143 | 157 | 124 | 176 | 212 | 120 | 118 | 102 | 9 | 325 | 326 | 326 | 335 | 322 | 357 | 2 | 358 | 62 | 95 | 256 | 143 | 139 | 136 | 135 | 90 |
| 6 | 127 | 95 | 111 | 132 | 333 | 343 | 341 | 323 | 319 | 333 | 340 | 347 | 356 | 337 | 20 | 19 | 13 | 32 | 55 | 77 | 145 | 136 | 150 | 160 | 30 |
| 7 | 176 | 173 | 168 | 174 | 175 | 169 | 148 | 177 | 222 | 239 | 220 | 217 | 181 | 164 | 167 | 158 | 192 | 156 | 179 | 195 | 189 | 163 | 270 | 24 | 183 |
| 8 | 88 | 111 | 130 | 168 | 109 | 105 | 207 | 12 | 7 | 306 | 6 | 202 | 215 | 1 | 267 | 249 | 235 | 280 | 275 | 241 | 275 | 207 | 133 | 180 | 217 |
| 9 | 126 | 142 | 125 | 156 | 142 | 122 | 125 | 265 | 202 | 213 | 209 | 315 | 134 | 39 | 96 | 70 | 289 | 202 | 215 | 201 | 93 | 126 | 31 | 159 | 150 |
| 10 | 185 | 119 | 130 | 164 | 252 | 165 | 135 | 84 | 357 | 336 | 327 | 313 | 310 | 4 | 12 | 37 | 63 | 158 | 197 | 199 | 192 | 172 | 180 | 250 | 167 |
| 11 | 136 | 149 | 239 | 201 | 119 | 156 | 162 | 159 | 32 | 225 | 221 | 228 | 226 | 199 | 285 | 325 | 339 | 60 | 143 | 170 | 107 | 122 | 66 | 102 | 163 |
| 12 | 124 | 123 | 140 | 152 | 155 | 268 | 197 | 174 | 181 | 90 | 82 | 64 | 32 | 326 | 300 | 289 | 322 | 291 | 301 | 289 | 301 | 282 | 115 | 133 | 194 |
| 13 | 156 | 164 | 94 | 82 | 319 | 273 | 220 | 79 | 42 | 71 | 19 | 29 | 299 | 266 | 228 | 225 | 222 | 239 | 265 | 279 | 227 | 188 | 167 | 204 | 223 |
| 14 | 220 | 113 | 158 | 196 | 63 | 118 | 171 | 125 | 84 | 119 | 272 | 315 | 150 | 116 | 150 | 149 | 195 | 165 | 169 | 243 | 206 | 193 | 197 | 159 | 163 |
| 15 | 95 | 129 | 274 | 271 | 233 | 143 | 147 | 123 | 119 | 178 | 176 | 230 | 225 | 226 | 219 | 220 | 229 | 229 | 229 | 265 | 245 | 158 | 163 | 139 | 274 |
| 16 | 298 | 160 | 308 | 300 | 216 | 248 | 274 | 99 | 116 | 105 | 149 | 221 | 231 | 231 | 295 | 352 | 353 | 297 | 304 | 8 | 32 | 256 | 237 | 289 | 273 |
| 17 | 269 | 232 | 168 | 111 | 255 | 147 | 261 | 39 | 165 | 167 | 174 | 173 | 181 | 175 | 211 | 215 | 192 | 210 | 203 | 194 | 195 | 236 | 264 | 246 | 189 |
| 18 | 136 | 164 | 209 | 161 | 203 | 181 | 125 | 151 | 165 | 177 | 197 | 209 | 201 | 215 | 221 | 213 | 226 | 229 | 225 | 218 | 221 | 246 | 262 | 249 | 198 |
| 19 | 166 | 118 | 112 | 155 | 248 | 105 | 158 | 95 | 70 | 299 | 217 | 226 | 242 | 229 | 233 | 255 | 238 | 241 | 237 | 168 | 128 | 148 | 151 | 140 | 185 |
| 20 | 132 | 148 | 140 | 134 | 121 | 143 | 121 | 143 | 183 | 21 | 199 | 204 | 201 | 177 | 171 | 167 | 211 | 214 | 221 | 204 | 209 | 204 | 166 | 194 | 173 |
| 21 | 286 | 131 | 146 | 121 | 132 | 134 | 143 | 116 | 83 | 145 | 199 | 204 | 201 | 177 | 171 | 202 | 222 | 227 | 240 | 222 | 223 | 221 | 189 | 171 | 211 |
| 22 | 102 | 109 | 285 | 284 | 285 | 238 | 150 | 98 | 58 | 9 | 233 | 236 | 227 | 192 | 212 | 202 | 222 | 227 | 240 | 222 | 226 | 90 | 185 | 190 | 197 |
| 23 | 181 | 182 | 200 | 194 | 199 | 164 | 187 | 184 | 205 | 196 | 176 | 171 | 175 | 199 | 197 | 174 | 143 | 148 | 149 | 145 | 143 | 138 | 112 | 120 | 166 |
| 24 | 185 | 204 | 195 | 188 | 188 | 265 | 318 | 66 | 60 | 176 | 94 | 137 | 117 | 74 | 338 | 30 | 356 | 21 | 30 | 60 | 125 | 290 | 122 | 143 | 94 |
| 25 | 116 | 120 | 118 | 120 | 109 | 134 | 141 | 137 | 215 | 202 | 214 | 215 | 209 | 211 | 228 | 199 | 182 | 178 | 170 | 166 | 170 | 168 | 160 | 146 | 168 |
| 26 | 138 | 145 | 152 | 133 | 122 | 125 | 137 | 117 | 74 | 338 | 340 | 323 | 261 | 188 | 107 | 300 | 356 | 266 | 295 | 260 | 285 | 143 | 158 | 155 | 149 |
| 27 | 158 | 174 | 196 | 143 | 156 | 215 | 191 | 110 | 32 | 336 | 340 | 323 | 261 | 188 | 107 | 300 | 356 | 266 | 295 | 260 | 285 | 143 | 158 | 155 | 149 |
| 28 | 158 | 158 | 138 | 135 | 119 | 116 | 118 | 135 | 153 | 200 | 231 | 300 | 21 | 32 | 332 | 356 | 109 | 126 | 155 | 166 | 241 | 295 | 207 | 209 | 114 |
| 29 | 318 | 318 | 166 | 79 | 35 | 23 | 105 | 125 | 87 | 229 | 205 | 228 | 0 | 22 | 40 | 356 | 109 | 126 | 155 | 166 | 241 | 295 | 207 | 209 | 114 |
| 30 | 238 | 199 | 213 | 170 | 156 | 138 | 238 | 315 | 17 | 2 | 29 | 332 | 301 | 320 | 336 | 333 | 118 | 177 | 162 | 253 | 229 | 270 | 295 | 127 | 241 |
| 31 | 183 | 81 | 58 | 107 | 139 | 125 | 122 | 114 | 61 | 329 | 338 | 30 | 303 | 329 | 8 | 326 | 304 | 277 | 240 | 307 | 137 | 162 | 262 | 191 | 35 |
| PV | 153 | 144 | 155 | 150 | 165 | 153 | 162 | 125 | 79 | 246 | 251 | 263 | 251 | 247 | 248 | 255 | 237 | 206 | 213 | 208 | 182 | 176 | 159 | 163 | 178 |

WIND DIRECTION AND
VELOCITY AVERAGE VELOCITY (DEG & MPS)
10 METER LEVEL

CB-TRACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | VECTOR | | | | | | | | | | | | | | |
|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | DIR | VEL | |
| 1 | 129 | 130 | 109 | 115 | 177 | 172 | 140 | 148 | 214 | 224 | 223 | 229 | 239 | 226 | 338 | 336 | 15 | 69 | 140 | 199 | 304 | 79 | 161 | 209 | 205 | 0-9 | |
| 2 | 60 | 174 | 229 | 138 | 235 | 158 | 90 | 161 | *** | 35 | 321 | 308 | 306 | 238 | 286 | 246 | 1 | 359 | 345 | 335 | 176 | 166 | 147 | 87 | 277 | 0-3 | |
| 3 | 116 | 139 | 103 | 118 | 148 | 176 | 137 | 94 | 79 | 189 | 238 | 208 | 294 | 302 | 128 | 221 | 209 | 155 | 184 | 176 | 156 | 157 | 124 | 126 | 155 | 1-2 | |
| 4 | 140 | 143 | 117 | 144 | 154 | 180 | 143 | 315 | 348 | 21 | 338 | 327 | 46 | 289 | 276 | 86 | 127 | 103 | 135 | 165 | 66 | 132 | 90 | 120 | 126 | 0-7 | |
| 5 | 160 | 107 | 107 | 210 | 207 | 104 | 161 | 56 | 348 | 330 | 328 | 323 | 337 | 320 | 2 | 0 | 9 | 33 | 66 | 100 | 245 | 148 | 128 | 139 | 138 | 47 | 0-4 |
| 6 | 105 | 138 | 144 | 203 | 264 | 213 | 149 | 328 | 318 | 329 | 339 | 351 | 352 | 338 | 18 | 20 | 9 | 33 | 56 | 96 | 148 | 126 | 145 | 156 | 60 | 0-6 | |
| 7 | 159 | 168 | 160 | 173 | 180 | 150 | 131 | 185 | 231 | 244 | 223 | 224 | 186 | 172 | 175 | 166 | 196 | 165 | 186 | 211 | 142 | 182 | 241 | 102 | 178 | 1-1 | |
| 8 | 124 | 157 | 193 | 214 | 220 | 115 | *** | 0 | 322 | 9 | 202 | 235 | 10 | 265 | 228 | 231 | 277 | 263 | 213 | 222 | 225 | 201 | 224 | 234 | 0-6 | | |
| 9 | 115 | 143 | 106 | 156 | 159 | 135 | 124 | *** | 259 | 220 | 202 | 313 | 148 | 40 | 97 | 63 | 66 | 161 | 206 | 203 | 194 | 170 | 177 | 172 | 185 | 0-7 | |
| 10 | 196 | 102 | 145 | 188 | 207 | 130 | 101 | 82 | 354 | 341 | 323 | 315 | 111 | 11 | 11 | 33 | 66 | 161 | 206 | 203 | 194 | 170 | 177 | 172 | 185 | 0-7 | |
| 11 | 131 | 161 | 270 | 95 | 129 | 163 | 101 | 79 | 14 | 219 | 224 | 234 | 233 | 202 | 290 | 330 | 340 | 71 | 151 | 184 | 97 | 19 | 109 | 152 | 191 | 0-4 | |
| 12 | 217 | 161 | 180 | 196 | 188 | 339 | 155 | 94 | 183 | 81 | 82 | 67 | 33 | 321 | 301 | 289 | 323 | 298 | 305 | 277 | 283 | 280 | 134 | 125 | 285 | 0-3 | |
| 13 | 44 | 110 | 92 | 119 | 250 | 222 | 121 | 68 | 39 | 63 | 5 | 28 | 324 | 269 | 235 | 233 | 227 | 242 | 267 | 242 | 211 | 219 | 225 | 174 | 231 | 0-6 | |
| 14 | 222 | 141 | 171 | 125 | 141 | 161 | 184 | 87 | 78 | 130 | 279 | 318 | 167 | 146 | 180 | 196 | 199 | 191 | 184 | 248 | 209 | 164 | 181 | 171 | 179 | 1-0 | |
| 15 | 111 | 183 | 268 | 221 | 185 | 164 | 207 | 104 | 117 | 193 | 180 | 238 | 232 | 230 | 227 | 225 | 241 | 231 | 271 | 233 | 133 | 150 | 148 | 243 | 213 | 1-4 | |
| 16 | 97 | 194 | 230 | 235 | 193 | *** | 194 | 107 | 114 | 104 | 153 | 225 | 235 | 234 | 300 | 336 | 356 | 298 | 290 | 9 | 217 | 220 | 145 | 248 | 235 | 0-7 | |
| 17 | 227 | 194 | 193 | 135 | 227 | 153 | 251 | 81 | 320 | 321 | 329 | 324 | 279 | 289 | 246 | 243 | 253 | 226 | 240 | 227 | 225 | 135 | 233 | 142 | 242 | 1-0 | |
| 18 | 123 | 131 | 220 | 164 | 205 | 171 | 111 | 143 | 168 | 172 | 180 | 180 | 188 | 178 | 218 | 232 | 201 | 216 | 207 | 200 | 202 | 231 | 140 | 239 | 190 | 2-9 | |
| 19 | 185 | 106 | 147 | 182 | 192 | 127 | 129 | 94 | 62 | 305 | 222 | 230 | 249 | 242 | 237 | 263 | 245 | 247 | 243 | 135 | 131 | 151 | 155 | 125 | 198 | 1-2 | |
| 20 | 128 | 129 | 100 | 128 | 182 | 130 | 141 | 165 | 21 | 218 | 204 | 213 | 208 | 221 | 228 | 216 | 235 | 235 | 231 | 209 | 214 | 36 | 336 | 354 | 202 | 1-7 | |
| 21 | 286 | 153 | 182 | 177 | 155 | 153 | 156 | 71 | 73 | 152 | 205 | 209 | 205 | 182 | 176 | 170 | 215 | 219 | 225 | 193 | 210 | 182 | 153 | 94 | 189 | 1-8 | |
| 22 | 108 | 146 | 255 | 248 | 230 | 150 | 161 | 74 | 33 | 0 | 243 | 242 | 232 | 197 | 214 | 205 | 228 | 232 | 248 | 212 | 213 | 169 | 181 | 184 | 212 | 1-7 | |
| 23 | 176 | 193 | 207 | 189 | 219 | 137 | *** | 180 | 215 | 212 | 204 | 202 | 208 | 214 | 187 | 208 | 225 | 239 | 242 | 210 | 221 | 200 | 207 | 214 | 209 | 2-5 | |
| 24 | 0 | 0 | 210 | 198 | 228 | 27 | 60 | 79 | 62 | 180 | 203 | 177 | 181 | 208 | 203 | 180 | 145 | 146 | 153 | 137 | 133 | 128 | 91 | 122 | 164 | 2-0 | |
| 25 | 109 | 133 | 121 | 109 | 114 | 123 | 101 | 79 | 223 | 209 | 218 | 218 | 214 | 217 | 232 | 205 | 187 | 182 | 176 | 174 | 176 | 168 | 116 | 116 | 175 | 2-1 | |
| 26 | 115 | 147 | 129 | 126 | 136 | 140 | 148 | 114 | 74 | 330 | 346 | 327 | 262 | *** | 239 | 270 | 297 | 270 | 260 | 154 | 165 | 163 | 157 | 111 | 196 | 0-7 | |
| 27 | 157 | 128 | 138 | 161 | 217 | 193 | 246 | 60 | 11 | 340 | 346 | 327 | 262 | *** | 239 | 270 | 297 | 270 | 260 | 154 | 165 | 163 | 157 | 111 | 196 | 0-7 | |
| 28 | 29 | 292 | 137 | 132 | 129 | 118 | 119 | 149 | 131 | 154 | 207 | 232 | 311 | 21 | 28 | 337 | 56 | 102 | *** | 277 | 251 | 144 | 118 | 209 | 129 | 0-6 | |
| 29 | 292 | 237 | 169 | 92 | 276 | 119 | 149 | 127 | 71 | 235 | 209 | 225 | 11 | 28 | 66 | 354 | 115 | 127 | 183 | 185 | 303 | 275 | 156 | 213 | 145 | 0-4 | |
| 30 | 237 | 182 | 169 | 156 | 120 | 117 | 143 | 350 | 28 | 3 | 28 | 338 | 305 | 326 | 347 | 349 | 120 | 199 | 176 | 226 | 214 | 237 | 134 | 153 | 209 | 0-5 | |
| 31 | 214 | 199 | 208 | 214 | 226 | 233 | 222 | *** | 28 | 327 | 339 | 28 | 303 | 326 | 4 | 329 | 306 | 259 | 219 | 207 | 239 | 210 | 240 | 158 | 282 | 0-6 | |
| VD | 151 | 148 | 157 | 159 | 175 | 149 | 142 | 106 | 148 | 224 | 226 | 240 | 235 | 228 | 256 | 247 | 228 | 209 | 213 | 200 | 182 | 166 | 152 | 157 | 191 | | |
| VV | 1-1 | 1-2 | 1-0 | 1-1 | 1-0 | 1-1 | 0-9 | 0-9 | 0-3 | 0-6 | 1-1 | 1-4 | 1-3 | 1-2 | 1-3 | 1-0 | 0-9 | 1-1 | 1-3 | 1-5 | 1-6 | 1-3 | 1-2 | 0-9 | | 0-9 | |

TOTAL NUMBER OF OBSERVATIONS = 735

NOTE: *** = MISSING DATA

111
220

WIND DIRECTION AND
VELOCITY AVERAGE VELOCITY (DEG & MPS)
30 METER LEVEL

CB-TRACT
TRAILER AR23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | VECTOR | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|--------|----|
| | | | | | | | | | | | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | | | | | | | 23 | 24 | DIR | VEL |
| 1 | 129 | 130 | 112 | 97 | 142 | 148 | 142 | 158 | 209 | 219 | 219 | 224 | 233 | 222 | 334 | 333 | 8 | 66 | 132 | 171 | 307 | 5 | 136 | 171 | 194 | 1-0 | | | | | | | |
| 2 | 47 | 113 | 233 | 104 | 231 | 229 | 102 | 154 | 211 | 37 | 315 | 303 | 299 | 232 | 284 | 241 | 0 | 355 | 341 | 342 | 168 | 152 | 111 | 262 | 0-4 | | | | | | | | |
| 3 | 128 | 145 | 107 | 105 | 133 | 153 | 126 | 90 | 173 | 177 | 338 | 208 | 292 | 298 | 125 | 217 | 199 | 149 | 177 | 167 | 150 | 152 | 135 | 121 | 148 | 1-8 | | | | | | | |
| 4 | 159 | 132 | 121 | 127 | 135 | 149 | 153 | 289 | 348 | 19 | 338 | 329 | 345 | 284 | 274 | 84 | 122 | 96 | 129 | 136 | 142 | 123 | 87 | 94 | 114 | 1-2 | | | | | | | |
| 5 | 146 | 137 | 113 | 125 | 208 | 79 | 124 | 53 | 349 | 324 | 321 | 323 | 333 | 319 | 359 | 0 | 358 | 62 | 94 | 235 | 140 | 131 | 127 | 125 | 65 | 0-6 | | | | | | | |
| 6 | 94 | 106 | 122 | 183 | 294 | 219 | *** | 324 | 316 | 328 | 338 | 349 | 353 | 334 | 17 | 17 | 11 | 30 | 53 | 83 | 142 | 126 | 141 | 150 | 63 | 1-1 | | | | | | | |
| 7 | 162 | 166 | 159 | 173 | 176 | 166 | 141 | 178 | 227 | 240 | 222 | 220 | 181 | 163 | 167 | 160 | 189 | 157 | 179 | 198 | 163 | 169 | 292 | 81 | 174 | 2-2 | | | | | | | |
| 8 | 107 | 130 | 146 | *** | 242 | 115 | 240 | 4 | 0 | 314 | 0 | 197 | 221 | 5 | 261 | 234 | 229 | 274 | 266 | 216 | 259 | 258 | 150 | 217 | 233 | 0-6 | | | | | | | |
| 9 | 112 | 138 | 107 | 148 | 143 | 122 | 117 | 259 | 205 | 215 | 202 | 308 | 140 | 37 | 92 | 62 | 286 | 200 | 215 | 188 | 102 | 140 | 330 | 162 | 142 | 1-4 | | | | | | | |
| 10 | 183 | 105 | 128 | 164 | 236 | 90 | 76 | 354 | 336 | 321 | 309 | 306 | 5 | 11 | 34 | 63 | 158 | 199 | 199 | 199 | 191 | 167 | 174 | 240 | 178 | 1-1 | | | | | | | |
| 11 | 123 | 152 | 254 | 189 | 110 | 148 | 116 | 95 | 19 | 217 | 222 | 230 | 228 | 199 | 285 | 325 | 338 | 62 | 145 | 173 | 91 | 34 | 86 | 137 | 176 | 0-6 | | | | | | | |
| 12 | 204 | 143 | 155 | 168 | 173 | 277 | 144 | 112 | 181 | 61 | 80 | 66 | 31 | 317 | 297 | 285 | 321 | 292 | 301 | 282 | 291 | 277 | 122 | 126 | 274 | 0-4 | | | | | | | |
| 13 | 145 | 145 | 82 | 87 | 287 | 248 | 141 | 63 | 36 | 67 | 11 | 311 | 264 | 126 | 153 | 170 | 154 | 168 | 173 | 219 | 204 | 177 | 183 | 176 | 165 | 1-5 | | | | | | | |
| 14 | 208 | 111 | 158 | 122 | 121 | 147 | 158 | 100 | 79 | 139 | 274 | 314 | 152 | 126 | 153 | 170 | 154 | 168 | 173 | 219 | 204 | 177 | 183 | 176 | 165 | 1-5 | | | | | | | |
| 15 | 98 | 139 | 275 | 241 | 199 | 118 | 186 | 107 | 116 | 183 | 175 | 233 | 227 | 227 | 221 | 221 | 233 | 228 | 266 | 238 | 128 | 139 | 134 | 266 | 213 | 1-7 | | | | | | | |
| 16 | 145 | 264 | 262 | 202 | *** | 233 | 105 | 113 | 100 | 143 | 222 | 233 | 231 | 294 | 330 | 352 | 295 | 293 | 11 | 219 | 238 | 208 | 266 | 250 | 0-9 | | | | | | | | |
| 17 | 242 | 208 | 175 | 121 | 243 | 121 | 250 | 71 | 314 | 314 | 330 | 316 | 278 | 284 | 243 | 237 | 248 | 211 | 202 | 192 | 193 | 228 | *** | 136 | 238 | 1-5 | | | | | | | |
| 18 | 136 | 175 | 212 | 159 | 204 | 172 | 111 | 141 | 162 | 165 | 174 | 174 | 181 | 173 | 212 | 217 | 194 | 211 | 202 | 192 | 193 | 228 | *** | 243 | 186 | 4-4 | | | | | | | |
| 19 | 184 | 111 | 123 | 163 | 225 | 90 | 128 | 85 | 62 | 301 | 217 | 227 | 243 | 235 | 234 | 257 | 240 | 242 | 239 | 148 | 125 | 145 | 149 | 128 | 193 | 1-7 | | | | | | | |
| 20 | 123 | 133 | 110 | 127 | 92 | 112 | 134 | 174 | 209 | 213 | 199 | 209 | 203 | 216 | 224 | 213 | 228 | 231 | 226 | 210 | 213 | 22 | 331 | 354 | 199 | 2-6 | | | | | | | |
| 21 | 22 | 140 | 159 | 153 | 148 | 141 | 145 | 92 | 75 | 146 | 201 | 205 | 201 | 177 | 171 | 165 | 211 | 215 | 221 | 194 | 203 | 191 | 158 | 207 | 184 | 2-7 | | | | | | | |
| 22 | 122 | 122 | 275 | 265 | 251 | 166 | 145 | 80 | 39 | 3 | 237 | 237 | 229 | 193 | 212 | 202 | 222 | 227 | 242 | 217 | 209 | 180 | 172 | 179 | 207 | 2-4 | | | | | | | |
| 23 | 174 | 180 | 201 | 188 | 201 | 120 | 207 | 182 | 209 | 208 | 198 | 198 | 204 | 210 | 183 | 202 | 219 | 234 | 238 | 215 | 215 | 135 | 188 | 203 | 3-0 | | | | | | | | |
| 24 | *** | 270 | 198 | 195 | 211 | 348 | 351 | 179 | 61 | 175 | 196 | 171 | 175 | 201 | 198 | 173 | 140 | 143 | 146 | 135 | 132 | 125 | 99 | 118 | 159 | 3-0 | | | | | | | |
| 25 | 108 | 119 | 112 | 107 | 109 | 123 | 112 | 103 | 219 | 204 | 214 | 215 | 209 | 212 | 228 | 200 | 182 | 176 | 169 | 167 | 169 | 165 | 132 | 128 | 167 | 3-3 | | | | | | | |
| 26 | 125 | 141 | 134 | 125 | 119 | 124 | 135 | 111 | 73 | 324 | 15 | 325 | 297 | 191 | 68 | 27 | 357 | 19 | 29 | 61 | 196 | 243 | 128 | 143 | 107 | 1-1 | | | | | | | |
| 27 | 156 | 161 | 159 | 136 | 164 | 180 | 249 | 59 | 10 | 336 | 339 | 322 | 300 | 189 | 235 | 266 | 293 | 265 | 259 | 142 | 157 | 156 | 151 | 145 | 182 | 1-1 | | | | | | | |
| 28 | 161 | 141 | 123 | 125 | 109 | 108 | 131 | 128 | 148 | 202 | 229 | 300 | 19 | 25 | 330 | 52 | 101 | *** | 272 | 245 | 161 | 111 | 111 | 192 | 127 | 0-9 | | | | | | | |
| 29 | 320 | 291 | 139 | 73 | 25 | 79 | 122 | 121 | 70 | 231 | 205 | 223 | 4 | 23 | 62 | 349 | 111 | 125 | 157 | 171 | 297 | 284 | 177 | 203 | 127 | 0-6 | | | | | | | |
| 30 | 234 | 189 | 204 | 157 | 132 | 119 | 118 | 351 | 25 | 3 | 28 | 331 | 300 | 320 | 338 | 335 | 121 | 183 | 163 | 231 | 213 | 251 | 114 | 137 | 197 | 0-8 | | | | | | | |
| 31 | 213 | 27 | 209 | *** | 251 | *** | 180 | *** | 38 | 326 | 332 | 28 | 300 | 325 | 5 | 324 | 303 | 265 | 219 | 180 | 137 | 196 | 276 | 354 | 317 | 0-7 | | | | | | | |
| VD | 146 | 141 | 148 | 145 | 158 | 135 | 134 | 114 | 155 | 215 | 219 | 233 | 230 | 221 | 253 | 239 | 218 | 199 | 205 | 194 | 174 | 157 | 145 | 150 | 181 | | | | | | | | |
| VV | 1-7 | 2-0 | 1-4 | 1-6 | 1-2 | 1-5 | 1-3 | 1-1 | 0-5 | 0-8 | 1-4 | 1-9 | 1-8 | 1-6 | 1-7 | 1-4 | 1-2 | 1-6 | 1-9 | 2-1 | 2-3 | 1-8 | 2-0 | 1-5 | | | | | | | | | |

TOTAL NUMBER OF OBSERVATIONS = 734

NOTE: *** = MISSING DATA

WIND DIRECTION AND
VELOCITY AVERAGE VELOCITY (DEG & MPS)
60 METER LEVEL

CU-TRACT
TRAILER #A23
AUG 1983

CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | VECTO | | | | | | | | | |
|-------|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | DIR | VEL |
| JAN 1 | 145 | 151 | 143 | 22 | 125 | 135 | 152 | 169 | 206 | 216 | 218 | 224 | 232 | 222 | 335 | 333 | 4 | 64 | 130 | 163 | 307 | 327 | 121 | 151 | 200 | 1.2 |
| 2 | 58 | 90 | 183 | *** | 222 | 246 | 249 | 166 | 190 | 51 | 319 | 305 | 301 | 232 | 286 | 243 | 359 | 355 | 344 | 0 | 164 | 173 | 161 | 137 | 236 | 0.5 |
| 3 | 149 | 159 | 122 | 110 | 126 | 158 | 133 | 94 | 73 | 164 | 235 | 215 | 293 | 302 | 128 | 220 | 196 | 153 | 175 | 166 | 150 | 155 | 150 | 130 | 153 | 2.2 |
| 4 | 131 | 139 | 138 | 124 | 143 | 147 | 159 | 199 | 339 | 30 | 345 | 334 | 47 | 290 | 275 | 82 | 124 | 98 | 130 | 157 | 101 | 131 | 132 | 96 | 122 | 1.5 |
| 5 | 143 | 157 | 124 | 120 | 118 | 102 | 9 | 325 | 326 | 326 | 335 | 322 | 357 | 2 | 358 | 62 | 95 | 256 | 143 | 139 | 136 | 135 | 80 | 0.6 | | |
| 6 | 127 | 95 | 111 | 132 | 333 | 343 | 323 | 319 | 333 | 340 | 347 | 356 | 337 | 20 | 19 | 13 | 32 | 55 | 77 | 145 | 136 | 150 | 160 | 68 | 1.2 | |
| 7 | 176 | 173 | 168 | 174 | 175 | 169 | 148 | 177 | 222 | 239 | 220 | 217 | 181 | 164 | 167 | 158 | 192 | 156 | 179 | 195 | 189 | 163 | 270 | 24 | 178 | 2.8 |
| 8 | 111 | 130 | 168 | 109 | 105 | 207 | 12 | 7 | 306 | 6 | 202 | 215 | 1 | 267 | 158 | 192 | 235 | 280 | 275 | 241 | 275 | 207 | 133 | 180 | 227 | 0.4 |
| 9 | 126 | 142 | 125 | 156 | 142 | 125 | 265 | 202 | 213 | 209 | 315 | 134 | 39 | 96 | 70 | 289 | 202 | 215 | 201 | 93 | 126 | 31 | 159 | 140 | 1.6 | |
| 10 | 185 | 119 | 130 | 164 | 252 | 165 | 135 | 84 | 357 | 336 | 327 | 313 | 310 | 4 | 12 | 37 | 63 | 158 | 197 | 199 | 192 | 172 | 180 | 250 | 184 | 1.4 |
| 11 | 136 | 149 | 239 | 201 | 119 | 156 | 162 | 159 | 32 | 225 | 221 | 228 | 226 | 199 | 285 | 325 | 339 | 60 | 143 | 170 | 107 | 122 | 66 | 102 | 187 | 0.9 |
| 12 | 124 | 123 | 140 | 152 | 155 | 268 | 197 | 174 | 181 | 90 | 82 | 64 | 32 | 326 | 300 | 289 | 322 | 291 | 301 | 289 | 301 | 282 | 115 | 133 | 268 | 0.4 |
| 13 | 156 | 164 | 94 | 82 | 319 | 273 | 220 | 79 | 42 | 71 | 19 | 29 | 299 | 266 | 228 | 225 | 222 | 239 | 265 | 243 | 206 | 193 | 197 | 159 | 165 | |
| 14 | 220 | 113 | 158 | 196 | 63 | 118 | 171 | 125 | 84 | 119 | 272 | 315 | 150 | 116 | 150 | 149 | 195 | 165 | 169 | 245 | 158 | 163 | 139 | 274 | 215 | 1.9 |
| 15 | 95 | 129 | 274 | 271 | 233 | 143 | 147 | 123 | 119 | 178 | 174 | 230 | 225 | 226 | 219 | 220 | 229 | 229 | 265 | 245 | 158 | 256 | 237 | 289 | 268 | 0.9 |
| 16 | 269 | 332 | 168 | 114 | 255 | 147 | 261 | 39 | 316 | 314 | 332 | 314 | 265 | 283 | 243 | 236 | 246 | 215 | 238 | 238 | 233 | 135 | 276 | 127 | 243 | 1.6 |
| 17 | 184 | 209 | 161 | 203 | 181 | 125 | 151 | 165 | 167 | 174 | 173 | 181 | 175 | 211 | 215 | 192 | 192 | 210 | 203 | 194 | 195 | 236 | 264 | 246 | 187 | 5.0 |
| 18 | 112 | 155 | 248 | 105 | 158 | 95 | 70 | 299 | 217 | 226 | 242 | 229 | 233 | 255 | 233 | 255 | 238 | 241 | 237 | 168 | 128 | 148 | 151 | 140 | 192 | 2.2 |
| 19 | 132 | 148 | 140 | 134 | 121 | 143 | 183 | 211 | 212 | 197 | 209 | 201 | 215 | 221 | 213 | 226 | 229 | 225 | 218 | 221 | 246 | 262 | 249 | 200 | 3.1 | |
| 20 | 285 | 131 | 146 | 121 | 132 | 134 | 116 | 83 | 145 | 199 | 204 | 201 | 177 | 171 | 167 | 171 | 167 | 211 | 214 | 221 | 204 | 209 | 166 | 194 | 185 | 3.1 |
| 21 | 102 | 109 | 285 | 284 | 295 | 238 | 150 | 98 | 58 | 9 | 233 | 236 | 227 | 192 | 212 | 202 | 222 | 227 | 240 | 232 | 219 | 189 | 171 | 186 | 209 | 2.7 |
| 22 | 182 | 200 | 194 | 199 | 164 | 187 | 184 | 206 | 205 | 196 | 197 | 203 | 209 | 184 | 201 | 216 | 216 | 235 | 237 | 223 | 226 | 90 | 185 | 190 | 202 | 4.4 |
| 23 | 185 | 204 | 195 | 188 | 188 | 255 | 318 | 66 | 60 | 176 | 144 | 171 | 175 | 199 | 197 | 174 | 183 | 148 | 149 | 145 | 143 | 138 | 112 | 120 | 162 | 3.8 |
| 24 | 165 | 116 | 120 | 109 | 134 | 141 | 137 | 215 | 202 | 214 | 215 | 209 | 211 | 258 | 199 | 182 | 178 | 170 | 166 | 170 | 166 | 160 | 146 | 172 | 3.8 | |
| 25 | 136 | 145 | 152 | 133 | 122 | 125 | 137 | 117 | 74 | 338 | 15 | 323 | 298 | 198 | 107 | 30 | 356 | 21 | 30 | 60 | 125 | 290 | 122 | 143 | 108 | 1.4 |
| 26 | 174 | 196 | 143 | 156 | 215 | 191 | 110 | 32 | 336 | 340 | 325 | 323 | 261 | 184 | 235 | 266 | 295 | 260 | 285 | 143 | 158 | 157 | 155 | 149 | 181 | 1.2 |
| 27 | 188 | 158 | 138 | 135 | 119 | 116 | 118 | 135 | 153 | 200 | 231 | 200 | 21 | 32 | 332 | 50 | 104 | 217 | 274 | 250 | 213 | 113 | 107 | 148 | 139 | 0.9 |
| 28 | 138 | 318 | 166 | 79 | 35 | 23 | 105 | 125 | 87 | 229 | 205 | 228 | 0 | 22 | 60 | 356 | 109 | 126 | 155 | 166 | 281 | 295 | 207 | 209 | 131 | 0.6 |
| 29 | 238 | 199 | 213 | 170 | 156 | 138 | 238 | 315 | 17 | 2 | 29 | 332 | 301 | 320 | 336 | 333 | 118 | 177 | 162 | 253 | 229 | 270 | 95 | 127 | 217 | 0.7 |
| 30 | 113 | 81 | 58 | 107 | 139 | 125 | 122 | 114 | 61 | 329 | 338 | 30 | 303 | 329 | 8 | 326 | 304 | 277 | 240 | 307 | 137 | 162 | 262 | 191 | 344 | 0.5 |
| 31 | 156 | 148 | 155 | 152 | 161 | 145 | 149 | 134 | 151 | 212 | 218 | 234 | 228 | 220 | 252 | 240 | 219 | 198 | 205 | 197 | 176 | 165 | 152 | 154 | 184 | |
| 1 | 2.0 | 2.4 | 1.7 | 1.8 | 1.2 | 1.3 | 1.5 | 1.2 | 0.7 | 0.9 | 1.5 | 2.0 | 1.9 | 1.7 | 1.8 | 1.4 | 1.3 | 1.8 | 2.1 | 2.3 | 2.6 | 2.3 | 2.3 | 2.0 | | 1.4 |

TOTAL NUMBER OF OBSERVATIONS = 743

NOTE: ***** = MISSING DATA

SIGNA HORIZ. WIND DIR. # 10M
DEGREES

CB-TRACT
TRAILER AA23
AUG 1983
CATHERAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

DAY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 AVE PEAK

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|------|------|------|----|----|----|----|----|------|------|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 4 | 4 | 7 | 10 | 9 | 5 | 6 | 13 | 15 | 14 | 15 | 13 | 14 | 16 | 11 | 12 | 9 | 10 | 6 | 16 | 7 | 8 | 3 | 8 | 10 | 16 |
| 2 | 20 | 10 | 9 | 5 | 11 | 8 | 5 | 12 | 21 | 37 | 25 | 27 | 21 | 20 | 18 | 15 | 16 | 9 | 6 | 11 | 6 | 12 | 13 | 14 | 11 | 22 |
| 3 | 11 | 5 | 3 | 6 | 9 | 6 | 7 | 10 | 24 | 35 | 29 | 29 | 15 | 16 | 20 | 12 | 15 | 10 | 6 | 13 | 9 | 6 | 9 | 13 | 14 | 37 |
| 4 | 5 | 3 | 4 | 6 | 3 | 9 | 5 | 18 | 22 | 33 | 33 | 28 | 26 | 20 | 19 | 17 | 11 | 9 | 5 | 13 | 9 | 7 | 11 | 6 | 11 | 29 |
| 5 | 4 | 7 | 5 | 8 | 3 | 9 | 5 | 16 | 22 | 32 | 26 | 32 | 19 | 22 | 22 | 17 | 14 | 13 | 7 | 5 | 9 | 8 | 8 | 7 | 14 | 33 |
| 6 | 7 | 5 | 8 | 7 | 5 | 3 | 21 | 16 | 32 | 31 | 26 | 32 | 27 | 22 | 27 | 28 | 34 | 13 | 8 | 3 | 10 | 6 | 10 | 6 | 16 | 37 |
| 7 | 4 | 3 | 4 | 5 | 14 | 9 | 8 | 18 | 21 | 36 | 37 | 29 | 23 | 27 | 27 | 28 | 34 | 13 | 8 | 3 | 10 | 6 | 10 | 6 | 16 | 37 |
| 8 | 9 | 4 | 4 | 11 | 9 | 7 | (CM) | 11 | 26 | 22 | 25 | 35 | 47 | 17 | 10 | 5 | 8 | 15 | 5 | 4 | 8 | 10 | 11 | 8 | 14 | 47 |
| 9 | 12 | 9 | 5 | 5 | 5 | 9 | 3 | (CM) | 17 | 22 | 32 | 33 | 30 | 22 | 29 | 25 | 20 | 24 | 9 | 9 | 5 | 4 | 12 | 9 | 16 | 33 |
| 10 | 11 | 9 | 11 | 10 | 3 | 12 | 13 | 14 | 30 | 33 | 28 | 20 | 17 | 23 | 17 | 12 | 16 | 13 | 15 | 17 | 10 | 12 | 7 | 4 | 14 | 37 |
| 11 | 4 | 10 | 8 | 16 | 9 | 8 | 6 | 6 | 26 | 37 | 27 | 20 | 17 | 23 | 16 | 10 | 24 | 14 | 7 | 5 | 4 | 10 | 10 | 7 | 11 | 24 |
| 12 | 7 | 6 | 3 | 11 | 10 | 5 | 9 | 11 | 32 | 24 | 34 | 27 | 25 | 23 | 16 | 14 | 11 | 7 | 4 | 2 | 13 | 13 | 13 | 15 | 34 | |
| 13 | 16 | 7 | 9 | 10 | 8 | 3 | 7 | 11 | 21 | 26 | 27 | 22 | 5 | 8 | 12 | 8 | 15 | 7 | 10 | 10 | 12 | 19 | 9 | 8 | 12 | 40 |
| 14 | 7 | 15 | 7 | 3 | 5 | 5 | 9 | 12 | 23 | 40 | 27 | 15 | 20 | 18 | 14 | 21 | 15 | 10 | 7 | 6 | 10 | 4 | 4 | 15 | 13 | 27 |
| 15 | 9 | 13 | 9 | 6 | 7 | 6 | 6 | 23 | 21 | 26 | 27 | 15 | 19 | 18 | 16 | 10 | 16 | 10 | 8 | 10 | 3 | 2 | 8 | 9 | 12 | 29 |
| 16 | 11 | 7 | 8 | 4 | 11 | (CM) | 17 | 11 | 15 | 19 | 29 | 18 | 19 | 18 | 16 | 11 | 15 | 10 | 11 | 9 | 14 | 17 | 18 | 8 | 15 | 35 |
| 17 | 3 | 8 | 7 | 15 | 14 | 6 | 12 | 7 | 15 | 23 | 28 | 27 | 35 | 21 | 21 | 13 | 11 | 9 | 12 | 9 | 9 | 15 | 22 | 11 | 13 | 22 |
| 18 | 11 | 16 | 17 | 11 | 15 | 19 | 8 | 12 | 16 | 12 | 13 | 19 | 14 | 15 | 13 | 15 | 15 | 8 | 7 | 12 | 8 | 10 | 14 | 15 | 32 | |
| 19 | 17 | 14 | 7 | 10 | 16 | 8 | 14 | 17 | 22 | 17 | 13 | 16 | 24 | 32 | 28 | 15 | 17 | 14 | 12 | 7 | 4 | 3 | 14 | 13 | 17 | 10 |
| 20 | 10 | 12 | 5 | 8 | 5 | 5 | 6 | 10 | 16 | 14 | 11 | 12 | 10 | 11 | 15 | 17 | 14 | 14 | 8 | 5 | 3 | 9 | 7 | 15 | 13 | 24 |
| 21 | 9 | 9 | 19 | 19 | 12 | 8 | 9 | 15 | 17 | 24 | 19 | 14 | 16 | 16 | 16 | 22 | 15 | 15 | 6 | 3 | 3 | 17 | 6 | 20 | 14 | 31 |
| 22 | 4 | 6 | 8 | 9 | 8 | 6 | 6 | 14 | 31 | 25 | 13 | 13 | 18 | 17 | 27 | 13 | 15 | 14 | 7 | 4 | 5 | 10 | 6 | 7 | 12 | 27 |
| 23 | 10 | 7 | 12 | 21 | 18 | (CM) | 22 | 9 | 11 | 23 | 24 | 14 | 13 | 16 | 12 | 11 | 9 | 9 | 5 | 9 | 8 | 10 | 10 | 5 | 13 | 24 |
| 24 | 16 | 10 | 9 | 19 | 16 | 17 | 10 | 21 | 23 | 14 | 17 | 15 | 14 | 14 | 19 | 11 | 11 | 9 | 5 | 3 | 19 | 6 | 9 | 6 | 10 | 19 |
| 25 | 4 | 4 | 5 | 5 | 4 | 4 | 5 | 15 | 14 | 17 | 15 | 16 | 14 | 16 | 19 | 11 | 11 | 9 | 5 | 3 | 19 | 6 | 9 | 6 | 10 | 19 |
| 26 | 5 | 5 | 3 | 4 | 6 | 6 | 5 | 9 | 24 | 30 | 33 | 28 | 34 | 26 | (CM) | 24 | 31 | 10 | 7 | 10 | 6 | 10 | 12 | 11 | 15 | 34 |
| 27 | 5 | 10 | 8 | 12 | 6 | 3 | 13 | 12 | 15 | 22 | 28 | 24 | 33 | (CM) | 15 | 20 | 18 | 16 | 11 | 8 | 6 | 5 | 6 | 26 | 14 | 33 |
| 28 | 13 | 9 | 3 | 3 | 5 | 6 | 5 | 10 | 15 | 16 | 35 | 42 | 10 | 10 | 10 | 14 | 10 | 9 | 8 | 11 | 16 | 7 | 9 | 14 | 12 | 42 |
| 29 | 11 | 11 | 10 | 8 | 9 | 3 | 8 | 22 | 32 | 15 | 16 | 10 | 13 | 9 | 11 | 10 | 9 | 6 | 14 | 10 | 14 | 19 | 6 | 12 | 32 | |
| 30 | 8 | 13 | 12 | 6 | 5 | 4 | 9 | 14 | 22 | 21 | 28 | 21 | 13 | 23 | 29 | 29 | 16 | 6 | 12 | 9 | 3 | 13 | 6 | 7 | 14 | 29 |
| 31 | 8 | 7 | 11 | 11 | 3 | 2 | 3 | (CM) | 15 | 18 | 23 | 29 | 16 | 12 | 23 | 11 | 13 | 6 | 2 | 5 | 10 | 13 | 11 | 11 | 11 | 29 |

AV 9 9 9 9 9 7 8 13 19 23 24 23 20 20 19 15 16 12 8 8 17 19 21 11 11 13 47

SIGMA HORIZ. WIND DIR. @ 30M
DEGREES

CH-TRACT
TRAILER AA23
AUG 1983
CATYRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|------|----|----|------|----|------|------|------|----|----|----|----|----|----|----|----|----|------|----|----|----|----|------|----|-----|------|
| 1 | 5 | 7 | 11 | 10 | 5 | 4 | 6 | 15 | 15 | 13 | 13 | 12 | 12 | 14 | 10 | 12 | 8 | 10 | 5 | 14 | 8 | 11 | 4 | 8 | 10 | 15 |
| 2 | 9 | 23 | 8 | 17 | 15 | 12 | 17 | 5 | 14 | 11 | 15 | 11 | 15 | 21 | 10 | 13 | 13 | 9 | 6 | 12 | 6 | 11 | 12 | 18 | 13 | 23 |
| 3 | 11 | 13 | 10 | 3 | 6 | 3 | 5 | 11 | 26 | 41 | 25 | 35 | 19 | 31 | 22 | 9 | 15 | 10 | 6 | 12 | 7 | 6 | 19 | 8 | 14 | 41 |
| 4 | 5 | 4 | 5 | 5 | 9 | 8 | 16 | 31 | 30 | 33 | 29 | 28 | 14 | 14 | 7 | 11 | 12 | 8 | 6 | 12 | 12 | 7 | 12 | 5 | 13 | 33 |
| 5 | 7 | 11 | 6 | 15 | 9 | 8 | 19 | 28 | 28 | 30 | 30 | 26 | 24 | 18 | 18 | 15 | 13 | 11 | 6 | 12 | 6 | 6 | 10 | 14 | 15 | 30 |
| 6 | 7 | 5 | 6 | 13 | 13 | 19 | (CH) | 25 | 18 | 31 | 30 | 30 | 18 | 25 | 20 | 15 | 14 | 14 | 7 | 4 | 7 | 8 | 7 | 7 | 15 | 31 |
| 7 | 5 | 3 | 4 | 4 | 9 | 8 | 8 | 19 | 19 | 36 | 35 | 27 | 20 | 24 | 28 | 27 | 31 | 21 | 8 | 2 | 12 | 13 | 13 | 6 | 16 | 36 |
| 8 | 10 | 5 | 8 | (CH) | 13 | 7 | 18 | 20 | 30 | 29 | 22 | 32 | 48 | 19 | 10 | 6 | 10 | 18 | 8 | 6 | 19 | 12 | 17 | 18 | 17 | 48 |
| 9 | 9 | 13 | 9 | 5 | 4 | 6 | 7 | 18 | 16 | 21 | 33 | 31 | 26 | 21 | 31 | 26 | 20 | 25 | 9 | 11 | 5 | 4 | 11 | 10 | 15 | 33 |
| 10 | 9 | 11 | 6 | 7 | 13 | 6 | 11 | 16 | 14 | 24 | 30 | 22 | 28 | 37 | 35 | 17 | 25 | 14 | 7 | 18 | 12 | 17 | 16 | 31 | 17 | 37 |
| 11 | 8 | 9 | 10 | 23 | 9 | 6 | 12 | 12 | 28 | 35 | 23 | 17 | 15 | 21 | 16 | 11 | 13 | 13 | 15 | 16 | 8 | 11 | 8 | 5 | 14 | 35 |
| 12 | 7 | 8 | 5 | 7 | 11 | 13 | 8 | 14 | 10 | 11 | 10 | 19 | 18 | 26 | 13 | 9 | 29 | 12 | 6 | 4 | 5 | 9 | 10 | 5 | 11 | 29 |
| 13 | 32 | 11 | 10 | 10 | 11 | 10 | 14 | 29 | 38 | 30 | 34 | 27 | 25 | 19 | 5 | 10 | 7 | 11 | 7 | 7 | 5 | 10 | 16 | 15 | 17 | 38 |
| 14 | 16 | 10 | 7 | 13 | 12 | 4 | 13 | 21 | 20 | 40 | 26 | 19 | 5 | 5 | 10 | 7 | 11 | 3 | 9 | 12 | 10 | 20 | 9 | 10 | 13 | 40 |
| 15 | 8 | 16 | 9 | 9 | 9 | 10 | 17 | 21 | 19 | 31 | 26 | 13 | 18 | 16 | 14 | 9 | 16 | 9 | 7 | 6 | 16 | 11 | 7 | 21 | 14 | 31 |
| 16 | 14 | 8 | 17 | 8 | 11 | (CH) | 26 | 9 | 13 | 17 | 26 | 16 | 18 | 16 | 14 | 9 | 16 | 9 | 9 | 9 | 16 | 10 | 11 | 7 | 13 | 26 |
| 17 | 6 | 9 | 10 | 16 | 14 | 6 | 16 | 11 | 15 | 22 | 31 | 28 | 43 | 15 | 18 | 18 | 13 | 10 | 8 | 4 | 21 | 20 | (CM) | 6 | 16 | 43 |
| 18 | 9 | 14 | 15 | 10 | 15 | 12 | 18 | 12 | 15 | 11 | 12 | 17 | 12 | 14 | 12 | 12 | 10 | 8 | 10 | 8 | 7 | 18 | (CM) | 16 | 12 | 18 |
| 19 | 16 | 10 | 7 | 7 | 16 | 13 | 17 | 15 | 22 | 15 | 12 | 15 | 23 | 29 | 28 | 14 | 13 | 7 | 7 | 10 | 6 | 7 | 9 | 15 | 14 | 29 |
| 20 | 9 | 13 | 10 | 7 | 19 | 7 | 10 | 16 | 13 | 17 | 10 | 10 | 10 | 10 | 14 | 16 | 13 | 11 | 6 | 2 | 24 | 10 | 13 | 11 | 24 | 24 |
| 21 | 14 | 15 | 23 | 17 | 5 | 10 | 17 | 18 | 24 | 26 | 35 | 15 | 15 | 15 | 13 | 12 | 13 | 12 | 7 | 5 | 3 | 7 | 3 | 9 | 13 | 35 |
| 22 | 6 | 8 | 9 | 10 | 8 | 8 | 6 | 12 | 30 | 26 | 35 | 15 | 13 | 16 | 25 | 21 | 15 | 13 | 6 | 3 | 6 | 22 | 13 | 24 | 14 | 40 |
| 23 | 10 | 4 | 12 | 14 | 26 | 15 | 40 | 17 | 8 | 10 | 11 | 11 | 17 | 15 | 24 | 12 | 13 | 12 | 6 | 8 | 9 | 16 | 4 | 14 | 27 | 40 |
| 24 | (CH) | 27 | 7 | 12 | 23 | 20 | 21 | 14 | 18 | 21 | 23 | 12 | 11 | 15 | 11 | 10 | 8 | 9 | 1 | 10 | 4 | 10 | 5 | 9 | 17 | 36 |
| 25 | 3 | 2 | 3 | 3 | 4 | 5 | 5 | 8 | 30 | 36 | 30 | 32 | 35 | 29 | 28 | 22 | 24 | 10 | 8 | 12 | 11 | 28 | 13 | 7 | 17 | 36 |
| 26 | 5 | 5 | 5 | 4 | 4 | 3 | 14 | 17 | 18 | 28 | 22 | 24 | 22 | 29 | 41 | 14 | 20 | 19 | 16 | 13 | 6 | 4 | 5 | 30 | 16 | 41 |
| 27 | 5 | 7 | 11 | 6 | 17 | 14 | 17 | 18 | 28 | 22 | 24 | 22 | 29 | 41 | 14 | 14 | 9 | (CM) | 7 | 9 | 32 | 6 | 7 | 16 | 12 | 48 |
| 28 | 14 | 8 | 3 | 4 | 3 | 5 | 5 | 8 | 13 | 15 | 30 | 48 | 9 | 9 | 9 | 14 | 9 | 7 | 4 | 7 | 22 | 15 | 15 | 5 | 12 | 34 |
| 29 | 16 | 13 | 13 | 7 | 15 | 8 | 4 | 8 | 24 | 34 | 14 | 15 | 10 | 12 | 25 | 26 | 12 | 5 | 9 | 12 | 4 | 32 | 6 | 5 | 16 | 38 |
| 30 | 7 | 11 | 16 | 6 | 6 | 6 | 12 | 22 | 38 | 24 | 31 | 20 | 12 | 25 | 26 | 27 | 15 | 7 | 4 | 10 | 24 | 14 | 28 | 17 | 17 | 28 |
| 31 | 13 | 9 | 10 | (CH) | 23 | (CH) | 24 | (CH) | 21 | 19 | 21 | 27 | 15 | 10 | 21 | 11 | 11 | 15 | 4 | 10 | 24 | 14 | 28 | 17 | 17 | 28 |
| AV | 10 | 10 | 9 | 10 | 12 | 9 | 13 | 16 | 21 | 24 | 23 | 22 | 19 | 19 | 17 | 15 | 15 | 11 | 7 | 8 | 10 | 13 | 11 | 12 | 14 | 48 |
| PK | 32 | 27 | 17 | 23 | 26 | 20 | 40 | 31 | 38 | 41 | 35 | 48 | 48 | 41 | 35 | 27 | 31 | 25 | 15 | 16 | 32 | 32 | 28 | 31 | | |

SIGMA HORIZ. WIND DIR. # 60M
DEGREES

CH-TRACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 8 | 10 | 17 | 15 | 2 | 2 | 6 | 15 | 11 | 12 | 12 | 10 | 11 | 14 | 8 | 10 | 7 | 10 | 3 | 9 | 6 | 3 | 5 | 3 | 9 | 17 |
| 2 | 10 | 5 | 3 | (CA) | 14 | 8 | 12 | 7 | 9 | 9 | 13 | 10 | 13 | 23 | 9 | 11 | 13 | 8 | 4 | 13 | 4 | 6 | 7 | 20 | 10 | 23 |
| 3 | 10 | 10 | 9 | 2 | 3 | 2 | 4 | 12 | 22 | 31 | 23 | 29 | 14 | 27 | 16 | 7 | 13 | 8 | 5 | 2 | 6 | 4 | 8 | 6 | 11 | 31 |
| 4 | 4 | 3 | 5 | 3 | 4 | 3 | 5 | 19 | 25 | 22 | 18 | 27 | 12 | 12 | 17 | 9 | 11 | 6 | 5 | 6 | 7 | 5 | 10 | 3 | 10 | 27 |
| 5 | 4 | 6 | 5 | 4 | 1 | 3 | 5 | 12 | 11 | 17 | 20 | 24 | 23 | 15 | 16 | 14 | 11 | 9 | 5 | 12 | 8 | 5 | 6 | 7 | 10 | 24 |
| 6 | 6 | 3 | 4 | 15 | 4 | 0 | 0 | 9 | 18 | 27 | 23 | 28 | 16 | 22 | 17 | 14 | 13 | 13 | 6 | 4 | 5 | 6 | 7 | 6 | 11 | 28 |
| 7 | 4 | 3 | 4 | 8 | 13 | 4 | 6 | 17 | 16 | 22 | 21 | 26 | 38 | 16 | 30 | 26 | 25 | 18 | 8 | 2 | 10 | 10 | 10 | 7 | 13 | 30 |
| 8 | 12 | 3 | 4 | 4 | 6 | 3 | 6 | 20 | 13 | 25 | 33 | 29 | 24 | 18 | 25 | 18 | 19 | 20 | 9 | 12 | 5 | 5 | 9 | 10 | 14 | 33 |
| 9 | 8 | 10 | 9 | 5 | 7 | 1 | 1 | 8 | 11 | 23 | 22 | 22 | 28 | 33 | 14 | 21 | 21 | 14 | 4 | 7 | 10 | 16 | 17 | 13 | 14 | 33 |
| 10 | 6 | 8 | 5 | 6 | 7 | 6 | 11 | 13 | 28 | 30 | 18 | 14 | 14 | 18 | 13 | 10 | 12 | 7 | 13 | 16 | 5 | 3 | 3 | 1 | 11 | 30 |
| 11 | 4 | 7 | 9 | 9 | 7 | 6 | 4 | 8 | 8 | 9 | 16 | 16 | 19 | 10 | 18 | 8 | 25 | 10 | 5 | 3 | 4 | 7 | 9 | 3 | 8 | 25 |
| 12 | 0 | 2 | 4 | 4 | 4 | 4 | 8 | 6 | 8 | 27 | 31 | 36 | 26 | 19 | 18 | 12 | 12 | 10 | 6 | 5 | 6 | 7 | 4 | 16 | 13 | 36 |
| 13 | 13 | 5 | 6 | 2 | 9 | 7 | 8 | 14 | 19 | 19 | 38 | 24 | 17 | 5 | 2 | 6 | 5 | 8 | 2 | 7 | 11 | 6 | 7 | 11 | 10 | 38 |
| 14 | 4 | 3 | 6 | 6 | 5 | 3 | 6 | 19 | 17 | 26 | 21 | 12 | 17 | 15 | 11 | 18 | 15 | 9 | 6 | 5 | 22 | 12 | 12 | 8 | 12 | 26 |
| 15 | 5 | 5 | 8 | 6 | 5 | 4 | 7 | 13 | 12 | 14 | 23 | 14 | 15 | 14 | 11 | 8 | 16 | 8 | 7 | 5 | 11 | 5 | 6 | 7 | 10 | 23 |
| 16 | 4 | 14 | 2 | 10 | 9 | 3 | 7 | 11 | 12 | 14 | 23 | 14 | 15 | 14 | 11 | 8 | 16 | 8 | 7 | 5 | 11 | 5 | 6 | 7 | 10 | 23 |
| 17 | 6 | 10 | 8 | 14 | 11 | 9 | 11 | 22 | 15 | 21 | 23 | 26 | 37 | 12 | 16 | 14 | 10 | 9 | 6 | 7 | 4 | 4 | 20 | 20 | 10 | 20 |
| 18 | 5 | 8 | 13 | 7 | 14 | 7 | 8 | 12 | 14 | 9 | 10 | 13 | 11 | 12 | 11 | 10 | 9 | 6 | 7 | 4 | 4 | 20 | 20 | 10 | 10 | 20 |
| 19 | 13 | 8 | 15 | 5 | 14 | 7 | 14 | 17 | 20 | 14 | 11 | 12 | 19 | 24 | 22 | 12 | 12 | 6 | 5 | 9 | 5 | 6 | 8 | 15 | 12 | 24 |
| 20 | 6 | 10 | 11 | 5 | 12 | 7 | 13 | 16 | 13 | 10 | 16 | 9 | 10 | 10 | 14 | 14 | 11 | 10 | 5 | 2 | 1 | 12 | 15 | 7 | 10 | 16 |
| 21 | 5 | 8 | 10 | 13 | 12 | 7 | 6 | 13 | 16 | 20 | 16 | 12 | 13 | 12 | 11 | 10 | 12 | 11 | 6 | 5 | 2 | 4 | 5 | 11 | 10 | 20 |
| 22 | 8 | 6 | 9 | 9 | 7 | 5 | 4 | 11 | 27 | 24 | 29 | 13 | 12 | 15 | 23 | 17 | 13 | 13 | 6 | 2 | 2 | 5 | 9 | 11 | 10 | 29 |
| 23 | 6 | 2 | 6 | 4 | 4 | 11 | 17 | 10 | 9 | 9 | 9 | 11 | 16 | 15 | 23 | 11 | 12 | 11 | 5 | 2 | 4 | 17 | 9 | 11 | 10 | 23 |
| 24 | 28 | 2 | 7 | 11 | 11 | 19 | 4 | 7 | 15 | 18 | 22 | 10 | 10 | 14 | 10 | 9 | 8 | 8 | 5 | 7 | 7 | 8 | 13 | 3 | 12 | 28 |
| 25 | 4 | 2 | 4 | 5 | 5 | 5 | 5 | 6 | 22 | 35 | 26 | 34 | 32 | 28 | 24 | 19 | 18 | 8 | 7 | 3 | 1 | 5 | 2 | 10 | 5 | 14 |
| 26 | 4 | 3 | 6 | 4 | 6 | 0 | 5 | 8 | 28 | 17 | 24 | 21 | 25 | 39 | 14 | 17 | 15 | 11 | 5 | 3 | 3 | 3 | 12 | 5 | 14 | 35 |
| 27 | 5 | 6 | 7 | 8 | 6 | 4 | 4 | 7 | 11 | 14 | 30 | 37 | 7 | 8 | 8 | 14 | 8 | 9 | 6 | 7 | 16 | 6 | 4 | 9 | 10 | 37 |
| 28 | 10 | 4 | 3 | 5 | 6 | 4 | 4 | 5 | 26 | 25 | 12 | 13 | 9 | 12 | 7 | 10 | 8 | 6 | 2 | 2 | 21 | 8 | 16 | 5 | 10 | 26 |
| 29 | 14 | 7 | 9 | 1 | 7 | 7 | 4 | 5 | 3 | 16 | 29 | 23 | 21 | 12 | 23 | 25 | 15 | 5 | 9 | 19 | 8 | 16 | 6 | 4 | 13 | 29 |
| 30 | 6 | 10 | 17 | 5 | 10 | 9 | 5 | 3 | 16 | 29 | 23 | 21 | 12 | 23 | 24 | 9 | 11 | 6 | 3 | 5 | 8 | 7 | 27 | 27 | 12 | 27 |
| 31 | 7 | 4 | 0 | 9 | 9 | 5 | 6 | 11 | 25 | 17 | 20 | 25 | 15 | 10 | 18 | 9 | 11 | 6 | 3 | 5 | 8 | 7 | 27 | 27 | 12 | 27 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| DAY | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 12 | 18 | 20 | 20 | 20 | 17 | 17 | 15 | 13 | 13 | 10 | 6 | 6 | 7 | 8 | 10 | 9 | 11 | 39 |
| PK | 28 | 23 | 17 | 15 | 14 | 19 | 17 | 22 | 29 | 38 | 33 | 37 | 38 | 39 | 33 | 26 | 25 | 20 | 13 | 19 | 22 | 20 | 27 | 27 | 11 | 39 |

TEMPERATURE @ 10M
DEGREE C

CR-TRACT
TRAILER #A23
AUG 1943
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 16 | 16 | 15 | 14 | 14 | 15 | 17 | 19 | 22 | 22 | 25 | 26 | 27 | 28 | 24 | 24 | 22 | 23 | 22 | 20 | 19 | 18 | 17 | 16 | 20 | 28 |
| 2 | 14 | 13 | 14 | 13 | 13 | 14 | 16 | 15 | 17 | 18 | 21 | 23 | 24 | 24 | 23 | 22 | 26 | 24 | 22 | 17 | 14 | 14 | 14 | 14 | 18 | 26 |
| 3 | 14 | 14 | 14 | 13 | 13 | 13 | 15 | 18 | 21 | 24 | 24 | 26 | 27 | 27 | 26 | 23 | 26 | 24 | 23 | 21 | 19 | 18 | 17 | 17 | 20 | 27 |
| 4 | 17 | 16 | 16 | 15 | 16 | 16 | 17 | 19 | 23 | 24 | 26 | 28 | 26 | 22 | 21 | 23 | 23 | 22 | 21 | 19 | 17 | 17 | 17 | 16 | 20 | 28 |
| 5 | 15 | 14 | 14 | 14 | 14 | 14 | 16 | 19 | 22 | 25 | 27 | 28 | 29 | 29 | 29 | 29 | 31 | 29 | 27 | 26 | 22 | 20 | 19 | 18 | 22 | 29 |
| 6 | 18 | 17 | 17 | 16 | 14 | 14 | 16 | 19 | 22 | 24 | 27 | 28 | 29 | 31 | 31 | 31 | 31 | 29 | 27 | 26 | 22 | 21 | 21 | 19 | 23 | 31 |
| 7 | 18 | 18 | 17 | 17 | 17 | 16 | 18 | 22 | 24 | 27 | 27 | 29 | 30 | 31 | 32 | 32 | 32 | 31 | 31 | 28 | 24 | 22 | 21 | 20 | 19 | 24 |
| 8 | 18 | 18 | 19 | 17 | 17 | 16 | 18 | 21 | 25 | 28 | 29 | 31 | 32 | 32 | 32 | 32 | 31 | 31 | 28 | 24 | 23 | 22 | 21 | 19 | 23 | 32 |
| 9 | 19 | 19 | 18 | 18 | 18 | 17 | 19 | 23 | 25 | 27 | 29 | 29 | 32 | 32 | 32 | 31 | 33 | 31 | 28 | 24 | 23 | 22 | 21 | 19 | 25 | 33 |
| 10 | 21 | 19 | 19 | 18 | 17 | 16 | 17 | 21 | 22 | 26 | 27 | 29 | 30 | 31 | 32 | 31 | 31 | 30 | 28 | 23 | 20 | 20 | 17 | 18 | 23 | 32 |
| 11 | 17 | 17 | 17 | 16 | 16 | 16 | 17 | 17 | 22 | 26 | 25 | 26 | 28 | 29 | 27 | 26 | 27 | 21 | 18 | 16 | 14 | 14 | 14 | 14 | 20 | 29 |
| 12 | 14 | 14 | 13 | 13 | 14 | 13 | 14 | 15 | 14 | 16 | 17 | 21 | 22 | 24 | 23 | 19 | 22 | 22 | 20 | 18 | 17 | 15 | 14 | 14 | 17 | 24 |
| 13 | 13 | 13 | 13 | 12 | 11 | 11 | 12 | 13 | 17 | 19 | 23 | 25 | 26 | 26 | 28 | 28 | 28 | 27 | 26 | 22 | 20 | 19 | 17 | 16 | 19 | 28 |
| 14 | 16 | 15 | 16 | 15 | 15 | 16 | 17 | 19 | 23 | 26 | 28 | 27 | 28 | 29 | 29 | 29 | 28 | 27 | 26 | 22 | 20 | 19 | 18 | 17 | 19 | 28 |
| 15 | 17 | 17 | 15 | 14 | 14 | 14 | 15 | 18 | 22 | 24 | 27 | 29 | 29 | 29 | 28 | 26 | 28 | 27 | 26 | 22 | 20 | 19 | 18 | 17 | 22 | 29 |
| 16 | 17 | 17 | 15 | 14 | 14 | 14 | 16 | 18 | 22 | 24 | 27 | 29 | 29 | 28 | 28 | 28 | 28 | 27 | 26 | 22 | 20 | 19 | 18 | 17 | 22 | 30 |
| 17 | 16 | 17 | 17 | 16 | 14 | 13 | 16 | 16 | 18 | 22 | 25 | 27 | 28 | 28 | 28 | 28 | 26 | 24 | 23 | 21 | 18 | 17 | 17 | 14 | 13 | 19 |
| 18 | 16 | 16 | 14 | 13 | 12 | 13 | 16 | 19 | 22 | 23 | 25 | 26 | 27 | 28 | 28 | 26 | 26 | 24 | 23 | 21 | 18 | 17 | 17 | 14 | 19 | 27 |
| 19 | 16 | 15 | 14 | 13 | 12 | 13 | 16 | 21 | 22 | 23 | 24 | 25 | 27 | 28 | 24 | 26 | 25 | 24 | 23 | 19 | 17 | 16 | 15 | 14 | 19 | 26 |
| 20 | 13 | 13 | 12 | 12 | 13 | 13 | 14 | 18 | 20 | 22 | 23 | 23 | 22 | 23 | 24 | 26 | 26 | 27 | 28 | 24 | 21 | 18 | 17 | 16 | 16 | 20 |
| 21 | 14 | 13 | 13 | 13 | 13 | 13 | 14 | 18 | 22 | 25 | 25 | 26 | 26 | 27 | 26 | 27 | 28 | 27 | 24 | 21 | 18 | 17 | 16 | 16 | 20 | 28 |
| 22 | 14 | 14 | 13 | 11 | 11 | 9 | 12 | 15 | 19 | 23 | 26 | 27 | 27 | 27 | 28 | 28 | 27 | 26 | 24 | 20 | 18 | 17 | 16 | 15 | 20 | 28 |
| 23 | 14 | 16 | 14 | 13 | 13 | 13 | 11 | 13 | 17 | 22 | 23 | 24 | 26 | 27 | 28 | 28 | 27 | 26 | 24 | 20 | 18 | 17 | 16 | 15 | 20 | 28 |
| 24 | 14 | 14 | 13 | 13 | 12 | 12 | 13 | 16 | 21 | 25 | 27 | 26 | 26 | 27 | 29 | 22 | 19 | 21 | 22 | 19 | 17 | 16 | 14 | 14 | 18 | 27 |
| 25 | 13 | 13 | 12 | 12 | 12 | 12 | 13 | 17 | 22 | 23 | 25 | 27 | 27 | 27 | 27 | 25 | 24 | 24 | 22 | 19 | 18 | 17 | 16 | 15 | 19 | 27 |
| 26 | 15 | 14 | 13 | 13 | 13 | 13 | 14 | 18 | 22 | 25 | 27 | 27 | 29 | 29 | 28 | 29 | 28 | 27 | 26 | 22 | 19 | 17 | 16 | 16 | 21 | 29 |
| 27 | 17 | 15 | 14 | 15 | 15 | 13 | 13 | 17 | 21 | 26 | 27 | 29 | 29 | 29 | 28 | 29 | 28 | 28 | 26 | 22 | 19 | 18 | 17 | 17 | 21 | 29 |
| 28 | 16 | 16 | 15 | 14 | 14 | 14 | 16 | 19 | 22 | 25 | 27 | 29 | 26 | 24 | 17 | 21 | 21 | 23 | 19 | 14 | 15 | 15 | 14 | 14 | 19 | 29 |
| 29 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 16 | 19 | 23 | 23 | 23 | 19 | 18 | 16 | 16 | 18 | 18 | 17 | 16 | 16 | 14 | 14 | 13 | 16 | 23 |
| 30 | 14 | 14 | 13 | 13 | 12 | 11 | 12 | 16 | 18 | 21 | 23 | 24 | 23 | 26 | 27 | 24 | 24 | 17 | 16 | 16 | 14 | 14 | 14 | 13 | 18 | 27 |
| 31 | 14 | 12 | 12 | 12 | 12 | 11 | 13 | 15 | 20 | 24 | 27 | 27 | 27 | 25 | 28 | 27 | 27 | 26 | 24 | 21 | 19 | 17 | 16 | 15 | 20 | 28 |
| AV | 16 | 15 | 15 | 14 | 14 | 14 | 15 | 18 | 21 | 24 | 25 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 23 | 20 | 19 | 18 | 17 | 16 | 20 | |
| PK | 21 | 19 | 19 | 18 | 18 | 17 | 19 | 23 | 25 | 28 | 29 | 31 | 32 | 32 | 32 | 32 | 33 | 31 | 28 | 26 | 23 | 22 | 21 | 19 | | 33 |
| MN | 13 | 12 | 12 | 11 | 11 | 9 | 12 | 13 | 14 | 16 | 17 | 21 | 18 | 17 | 16 | 16 | 18 | 17 | 16 | 14 | 14 | 14 | 13 | 13 | | |

MONTHLY MINIMUM = 9

TEMPERATURE # 304
DEGREE C

CB-THACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|----|
| 1 | 17 | 17 | 16 | 15 | 15 | 16 | 16 | 18 | 19 | 20 | 22 | 23 | 23 | 24 | 23 | 23 | 21 | 22 | 21 | 20 | 18 | 18 | 17 | 17 | 17 | 19 | 24 |
| 2 | 16 | 14 | 14 | 13 | 13 | 15 | 17 | 16 | 16 | 18 | 19 | 21 | 22 | 21 | 22 | 22 | 24 | 23 | 22 | 17 | 14 | 14 | 15 | 14 | 18 | 24 | |
| 3 | 14 | 14 | 14 | 13 | 13 | 14 | 14 | 17 | 20 | 23 | 24 | 24 | 26 | 26 | 24 | 23 | 24 | 24 | 23 | 21 | 18 | 17 | 17 | 16 | 20 | 26 | |
| 4 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 19 | 22 | 23 | 24 | 27 | 25 | 27 | 22 | 21 | 22 | 21 | 20 | 18 | 17 | 17 | 17 | 16 | 20 | 27 | |
| 5 | 16 | 16 | 13 | 13 | 13 | 13 | 14 | 17 | 21 | 23 | 25 | 27 | 27 | 28 | 27 | 28 | 26 | 25 | 23 | 22 | 20 | 21 | 21 | 20 | 21 | 28 | |
| 6 | 16 | 16 | 17 | 17 | 16 | 14 | 16 | 18 | 20 | 23 | 25 | 26 | 27 | 28 | 29 | 31 | 30 | 29 | 28 | 26 | 23 | 21 | 21 | 20 | 22 | 29 | |
| 7 | 19 | 19 | 18 | 18 | 18 | 17 | 19 | 22 | 23 | 25 | 26 | 27 | 28 | 29 | 31 | 31 | 30 | 29 | 28 | 26 | 24 | 22 | 21 | 19 | 24 | 31 | |
| 8 | 19 | 20 | 20 | 19 | 18 | 18 | 19 | 21 | 24 | 28 | 28 | 29 | 31 | 30 | 27 | 26 | 27 | 28 | 26 | 24 | 23 | 22 | 21 | 24 | 31 | 31 | |
| 9 | 21 | 20 | 19 | 19 | 19 | 18 | 18 | 20 | 23 | 24 | 26 | 28 | 28 | 29 | 31 | 31 | 30 | 29 | 26 | 23 | 21 | 21 | 18 | 18 | 23 | 30 | |
| 10 | 22 | 21 | 19 | 19 | 18 | 16 | 18 | 20 | 23 | 24 | 26 | 28 | 28 | 29 | 31 | 30 | 29 | 26 | 23 | 21 | 21 | 18 | 18 | 18 | 23 | 30 | |
| 11 | 18 | 18 | 17 | 17 | 17 | 17 | 17 | 18 | 22 | 24 | 24 | 24 | 26 | 27 | 26 | 24 | 26 | 22 | 19 | 17 | 14 | 14 | 14 | 14 | 20 | 27 | |
| 12 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 16 | 15 | 16 | 17 | 21 | 22 | 23 | 22 | 18 | 21 | 21 | 19 | 18 | 17 | 15 | 14 | 14 | 17 | 23 | |
| 13 | 14 | 13 | 13 | 13 | 12 | 12 | 12 | 13 | 16 | 19 | 23 | 23 | 24 | 24 | 26 | 26 | 26 | 26 | 24 | 22 | 21 | 18 | 17 | 16 | 18 | 26 | |
| 14 | 18 | 17 | 17 | 17 | 16 | 17 | 18 | 19 | 23 | 26 | 27 | 26 | 18 | 19 | 22 | 21 | 22 | 23 | 22 | 21 | 19 | 18 | 17 | 19 | 20 | 27 | |
| 15 | 17 | 18 | 16 | 15 | 16 | 15 | 16 | 18 | 21 | 23 | 25 | 25 | 26 | 27 | 27 | 27 | 27 | 26 | 25 | 23 | 21 | 21 | 19 | 18 | 22 | 27 | |
| 16 | 17 | 18 | 18 | 17 | 16 | 13 | 16 | 16 | 18 | 22 | 23 | 25 | 26 | 27 | 28 | 28 | 27 | 26 | 24 | 23 | 22 | 19 | 18 | 17 | 20 | 28 | |
| 17 | 18 | 18 | 17 | 12 | 14 | 16 | 16 | 18 | 21 | 23 | 24 | 25 | 26 | 27 | 26 | 24 | 24 | 23 | 22 | 21 | 19 | 18 | 17 | 16 | 18 | 26 | |
| 18 | 18 | 18 | 16 | 15 | 14 | 13 | 11 | 13 | 16 | 20 | 21 | 21 | 21 | 22 | 23 | 25 | 24 | 24 | 23 | 22 | 21 | 18 | 17 | 14 | 13 | 19 | 25 |
| 19 | 16 | 16 | 15 | 14 | 13 | 13 | 12 | 14 | 17 | 19 | 21 | 21 | 21 | 22 | 23 | 24 | 23 | 23 | 22 | 21 | 20 | 18 | 17 | 16 | 18 | 24 | |
| 20 | 13 | 13 | 13 | 13 | 13 | 12 | 14 | 16 | 18 | 21 | 24 | 24 | 24 | 26 | 26 | 26 | 26 | 26 | 24 | 22 | 21 | 19 | 17 | 17 | 20 | 26 | |
| 21 | 15 | 14 | 15 | 14 | 14 | 14 | 13 | 15 | 18 | 22 | 24 | 24 | 25 | 26 | 27 | 27 | 26 | 24 | 22 | 22 | 22 | 19 | 17 | 16 | 20 | 27 | |
| 22 | 16 | 16 | 14 | 13 | 12 | 11 | 13 | 15 | 18 | 22 | 24 | 24 | 24 | 25 | 26 | 26 | 25 | 24 | 23 | 22 | 21 | 18 | 17 | 16 | 20 | 26 | |
| 23 | 16 | 16 | 14 | 14 | 15 | 10 | 14 | 18 | 21 | 22 | 23 | 23 | 24 | 25 | 26 | 26 | 25 | 24 | 23 | 22 | 21 | 18 | 17 | 16 | 20 | 26 | |
| 24 | 16 | 15 | 15 | 15 | 14 | 13 | 14 | 16 | 21 | 24 | 24 | 24 | 24 | 25 | 24 | 21 | 18 | 20 | 19 | 18 | 17 | 16 | 15 | 19 | 25 | | |
| 25 | 14 | 14 | 14 | 13 | 13 | 13 | 14 | 17 | 21 | 22 | 23 | 24 | 24 | 24 | 24 | 24 | 24 | 22 | 21 | 19 | 18 | 17 | 16 | 19 | 26 | | |
| 26 | 16 | 15 | 15 | 14 | 15 | 14 | 16 | 19 | 24 | 25 | 26 | 27 | 26 | 27 | 26 | 27 | 26 | 24 | 23 | 21 | 19 | 17 | 17 | 21 | 28 | | |
| 27 | 17 | 16 | 16 | 17 | 16 | 13 | 14 | 17 | 21 | 24 | 25 | 27 | 26 | 27 | 26 | 27 | 26 | 24 | 23 | 21 | 18 | 17 | 17 | 21 | 27 | | |
| 28 | 17 | 17 | 16 | 16 | 16 | 14 | 16 | 19 | 22 | 23 | 25 | 27 | 23 | 23 | 17 | 21 | 21 | 22 | 19 | 15 | 15 | 15 | 15 | 19 | 27 | | |
| 29 | 14 | 13 | 14 | 14 | 14 | 13 | 14 | 16 | 19 | 22 | 23 | 22 | 18 | 17 | 16 | 16 | 18 | 17 | 17 | 16 | 15 | 15 | 15 | 16 | 17 | 22 | |
| 30 | 16 | 15 | 14 | 13 | 13 | 12 | 13 | 15 | 18 | 21 | 22 | 23 | 22 | 17 | 26 | 26 | 24 | 19 | 18 | 17 | 17 | 14 | 14 | 14 | 18 | 26 | |
| 31 | 15 | 14 | 13 | 13 | 13 | 12 | 13 | 16 | 20 | 23 | 25 | 26 | 26 | 24 | 27 | 26 | 26 | 25 | 23 | 22 | 20 | 19 | 18 | 16 | 20 | 27 | |
| AV | 17 | 16 | 16 | 15 | 15 | 14 | 16 | 18 | 20 | 23 | 24 | 25 | 25 | 25 | 25 | 25 | 25 | 24 | 23 | 21 | 20 | 18 | 17 | 17 | 20 | | |
| PK | 22 | 21 | 20 | 19 | 19 | 18 | 19 | 22 | 24 | 28 | 28 | 29 | 31 | 30 | 31 | 31 | 31 | 30 | 28 | 26 | 24 | 23 | 22 | 24 | 31 | | |
| MIN | 13 | 13 | 13 | 12 | 12 | 10 | 12 | 13 | 15 | 16 | 17 | 21 | 18 | 17 | 16 | 16 | 18 | 18 | 17 | 15 | 14 | 14 | 14 | 13 | | | |

MONTHLY MINIMUM = 10

TEMPERATURE 60M
DEGREE C

CB-TRACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 17 | 17 | 16 | 16 | 16 | 17 | 18 | 19 | 21 | 22 | 24 | 24 | 25 | 26 | 24 | 23 | 22 | 22 | 22 | 21 | 19 | 18 | 18 | 18 | 20 | 26 |
| 2 | 16 | 15 | 16 | 15 | 15 | 16 | 17 | 16 | 17 | 18 | 20 | 23 | 23 | 23 | 22 | 22 | 25 | 23 | 22 | 17 | 15 | 16 | 16 | 16 | 18 | 25 |
| 3 | 15 | 14 | 14 | 14 | 14 | 15 | 16 | 18 | 20 | 22 | 23 | 25 | 25 | 26 | 24 | 23 | 24 | 22 | 23 | 21 | 21 | 19 | 18 | 18 | 20 | 26 |
| 4 | 18 | 17 | 17 | 17 | 17 | 18 | 18 | 20 | 22 | 23 | 25 | 27 | 28 | 28 | 28 | 28 | 27 | 26 | 25 | 24 | 22 | 21 | 19 | 17 | 20 | 27 |
| 5 | 16 | 17 | 16 | 16 | 16 | 15 | 17 | 19 | 22 | 24 | 26 | 27 | 28 | 28 | 28 | 28 | 27 | 26 | 25 | 24 | 22 | 21 | 19 | 19 | 22 | 28 |
| 6 | 18 | 18 | 18 | 18 | 18 | 18 | 19 | 22 | 24 | 25 | 26 | 28 | 29 | 30 | 31 | 29 | 29 | 28 | 27 | 26 | 24 | 22 | 21 | 20 | 23 | 29 |
| 7 | 19 | 19 | 18 | 18 | 18 | 20 | 22 | 24 | 25 | 26 | 28 | 29 | 31 | 30 | 31 | 30 | 31 | 29 | 28 | 26 | 24 | 22 | 22 | 22 | 24 | 31 |
| 8 | 21 | 21 | 20 | 19 | 20 | 19 | 21 | 23 | 24 | 26 | 28 | 28 | 31 | 28 | 31 | 30 | 29 | 29 | 28 | 26 | 24 | 23 | 22 | 21 | 25 | 31 |
| 9 | 21 | 21 | 21 | 19 | 18 | 16 | 18 | 21 | 23 | 24 | 26 | 27 | 28 | 29 | 30 | 29 | 29 | 29 | 26 | 23 | 20 | 20 | 18 | 18 | 23 | 30 |
| 10 | 22 | 21 | 19 | 18 | 16 | 18 | 17 | 19 | 22 | 24 | 24 | 25 | 27 | 28 | 26 | 24 | 26 | 22 | 19 | 16 | 14 | 14 | 14 | 14 | 20 | 28 |
| 11 | 18 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 19 | 22 | 23 | 24 | 24 | 24 | 24 | 26 | 26 | 26 | 24 | 22 | 21 | 20 | 19 | 18 | 19 | 26 |
| 12 | 14 | 14 | 14 | 13 | 12 | 12 | 12 | 13 | 17 | 19 | 22 | 23 | 24 | 24 | 24 | 26 | 26 | 26 | 24 | 22 | 21 | 20 | 19 | 18 | 20 | 27 |
| 13 | 14 | 14 | 14 | 13 | 12 | 12 | 12 | 13 | 17 | 19 | 22 | 23 | 24 | 24 | 24 | 26 | 26 | 26 | 24 | 22 | 21 | 20 | 19 | 18 | 20 | 27 |
| 14 | 18 | 17 | 18 | 17 | 15 | 16 | 15 | 16 | 18 | 21 | 24 | 26 | 27 | 27 | 27 | 28 | 27 | 27 | 25 | 23 | 21 | 20 | 19 | 18 | 22 | 28 |
| 15 | 18 | 18 | 17 | 17 | 16 | 16 | 16 | 18 | 21 | 23 | 26 | 27 | 28 | 28 | 26 | 26 | 26 | 27 | 26 | 25 | 23 | 21 | 20 | 19 | 22 | 28 |
| 16 | 18 | 18 | 17 | 16 | 16 | 14 | 17 | 17 | 18 | 22 | 23 | 26 | 27 | 27 | 28 | 28 | 27 | 26 | 24 | 23 | 22 | 22 | 19 | 18 | 22 | 28 |
| 17 | 18 | 17 | 16 | 16 | 16 | 14 | 17 | 17 | 18 | 21 | 23 | 25 | 26 | 27 | 27 | 26 | 24 | 23 | 22 | 21 | 19 | 18 | 17 | 17 | 19 | 25 |
| 18 | 18 | 17 | 16 | 15 | 14 | 16 | 18 | 21 | 24 | 25 | 25 | 25 | 26 | 26 | 25 | 24 | 24 | 23 | 22 | 21 | 19 | 19 | 17 | 17 | 20 | 26 |
| 19 | 16 | 15 | 14 | 13 | 13 | 13 | 14 | 17 | 20 | 21 | 22 | 22 | 22 | 24 | 25 | 24 | 24 | 23 | 22 | 21 | 18 | 17 | 14 | 14 | 19 | 25 |
| 20 | 14 | 13 | 13 | 13 | 13 | 13 | 14 | 17 | 19 | 21 | 22 | 22 | 22 | 22 | 23 | 24 | 23 | 23 | 22 | 21 | 20 | 18 | 17 | 16 | 19 | 24 |
| 21 | 15 | 16 | 15 | 15 | 15 | 16 | 17 | 18 | 21 | 24 | 24 | 25 | 25 | 26 | 26 | 26 | 27 | 26 | 24 | 22 | 21 | 19 | 18 | 18 | 21 | 27 |
| 22 | 16 | 16 | 14 | 13 | 13 | 13 | 13 | 15 | 18 | 22 | 24 | 24 | 26 | 26 | 26 | 27 | 26 | 26 | 24 | 22 | 22 | 21 | 20 | 18 | 20 | 27 |
| 23 | 18 | 19 | 17 | 16 | 15 | 14 | 16 | 18 | 21 | 22 | 24 | 25 | 25 | 26 | 26 | 26 | 26 | 24 | 23 | 22 | 21 | 18 | 17 | 17 | 21 | 26 |
| 24 | 17 | 16 | 16 | 15 | 14 | 16 | 18 | 21 | 24 | 25 | 25 | 25 | 26 | 26 | 25 | 24 | 24 | 23 | 22 | 21 | 19 | 19 | 17 | 17 | 20 | 26 |
| 25 | 14 | 14 | 14 | 14 | 14 | 14 | 16 | 18 | 22 | 23 | 24 | 24 | 25 | 26 | 25 | 24 | 24 | 23 | 22 | 21 | 19 | 19 | 17 | 17 | 20 | 26 |
| 26 | 17 | 16 | 16 | 16 | 16 | 16 | 17 | 18 | 21 | 24 | 26 | 26 | 27 | 26 | 27 | 28 | 27 | 26 | 25 | 23 | 21 | 20 | 19 | 18 | 21 | 28 |
| 27 | 18 | 17 | 17 | 17 | 16 | 14 | 15 | 18 | 22 | 25 | 26 | 27 | 27 | 27 | 27 | 28 | 26 | 27 | 25 | 22 | 21 | 20 | 19 | 18 | 22 | 28 |
| 28 | 17 | 17 | 17 | 16 | 16 | 16 | 17 | 19 | 22 | 24 | 26 | 28 | 24 | 23 | 17 | 20 | 21 | 22 | 19 | 15 | 16 | 16 | 16 | 16 | 19 | 28 |
| 29 | 15 | 13 | 14 | 15 | 14 | 14 | 14 | 16 | 19 | 22 | 23 | 19 | 17 | 16 | 16 | 16 | 18 | 18 | 17 | 18 | 17 | 16 | 15 | 14 | 17 | 23 |
| 30 | 16 | 15 | 15 | 13 | 13 | 12 | 13 | 16 | 18 | 21 | 22 | 23 | 22 | 24 | 26 | 25 | 23 | 18 | 17 | 18 | 18 | 17 | 16 | 16 | 18 | 26 |
| 31 | 16 | 14 | 14 | 14 | 13 | 13 | 14 | 17 | 20 | 23 | 25 | 26 | 26 | 24 | 27 | 26 | 26 | 25 | 23 | 21 | 21 | 19 | 18 | 17 | 20 | 27 |
| AV | 17 | 16 | 16 | 16 | 15 | 15 | 16 | 18 | 21 | 23 | 24 | 25 | 25 | 26 | 25 | 25 | 25 | 24 | 23 | 21 | 20 | 19 | 18 | 17 | 21 | |
| PK | 22 | 21 | 20 | 20 | 19 | 19 | 21 | 23 | 25 | 28 | 24 | 29 | 31 | 30 | 31 | 31 | 31 | 29 | 28 | 26 | 24 | 23 | 22 | 22 | 31 | |
| MN | 14 | 13 | 13 | 13 | 12 | 11 | 12 | 13 | 14 | 15 | 17 | 20 | 18 | 17 | 16 | 16 | 18 | 18 | 17 | 15 | 14 | 14 | 14 | 14 | | |

MONTHLY MINIMUM = 11

DELTA TEMPERATURE 60-10M
DEGREE C*100

CB-TRACT
TRAILER AA23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| 1 | 17 | -67 | -167 | 83 | 39 | 139 | -11 | -178 | -178 | -172 | -172 | -222 | -217 | -206 | -317 | -172 | -167 | -128 | -172 | -28 | 28 | -300 | -67 | -56 | -112 | 139 | |
| 2 | 78 | 6 | 83 | 111 | 133 | 144 | 61 | 39 | -22 | -33 | -83 | -128 | -150 | -167 | -322 | -333 | -117 | -100 | -28 | -67 | 50 | 78 | 78 | 50 | -27 | 144 | |
| 3 | 44 | 72 | 44 | 106 | 83 | 111 | -117 | 44 | -61 | -83 | -194 | -117 | -194 | -233 | -106 | -311 | -117 | -128 | -67 | -83 | 67 | 72 | 33 | 28 | -50 | 111 | |
| 4 | 61 | 150 | 89 | 128 | -289 | -28 | 6 | -167 | -317 | -300 | -322 | -383 | -128 | -39 | -28 | -44 | -56 | -56 | -33 | 0 | 28 | 56 | 28 | 72 | -66 | 150 | |
| 5 | 67 | 133 | 67 | -61 | -128 | -83 | -39 | 78 | -44 | -117 | -172 | -183 | -161 | -244 | -128 | -133 | -78 | -50 | -22 | 11 | 22 | 6 | 22 | 100 | -54 | 133 | |
| 6 | 78 | 67 | -433 | -17 | 61 | -62 | -44 | -100 | -150 | -172 | -178 | -172 | -156 | -183 | -133 | -156 | -122 | -33 | 39 | 28 | -22 | 17 | 17 | -76 | 78 | | |
| 7 | 44 | -28 | -322 | 122 | 106 | 133 | 56 | -67 | -106 | -144 | -94 | -178 | -144 | -133 | -156 | -161 | -156 | -128 | -83 | 72 | 206 | -122 | 33 | -156 | -62 | 206 | |
| 8 | -261 | -294 | 128 | 217 | -22 | 78 | 150 | 56 | -22 | -117 | -150 | -144 | -156 | -156 | -56 | 128 | 122 | -94 | -33 | 128 | 172 | 150 | 133 | 44 | 0 | 217 | |
| 9 | 117 | -78 | 39 | 11 | 50 | -228 | 61 | -28 | -78 | -100 | -183 | -194 | -178 | -156 | -122 | -200 | -133 | -44 | 128 | 133 | 111 | 144 | -28 | -47 | 144 | | |
| 10 | 11 | 33 | 117 | 128 | 122 | 50 | 44 | -6 | -78 | -128 | -183 | -189 | -194 | -172 | -172 | -161 | -117 | -106 | -11 | -50 | -39 | -28 | 0 | 44 | -45 | 128 | |
| 11 | 39 | 67 | 44 | 83 | 44 | 67 | 78 | 100 | -56 | -150 | -106 | -144 | -183 | -156 | -172 | -117 | -167 | 50 | 28 | -33 | 6 | 11 | 39 | 17 | -25 | 100 | |
| 12 | 17 | 33 | 106 | 106 | 133 | 117 | 56 | 0 | -167 | -111 | -78 | -161 | -139 | -172 | -144 | -89 | -144 | -128 | -89 | -89 | 0 | -350 | -22 | 17 | -54 | 133 | |
| 13 | 28 | 39 | 78 | 111 | 94 | 67 | 17 | -17 | -61 | -39 | -161 | -172 | -167 | -183 | -183 | -194 | -172 | -133 | -94 | -11 | 72 | 122 | 206 | 150 | -25 | 206 | |
| 14 | -172 | -6 | 139 | 111 | 61 | 128 | 144 | 33 | -56 | -78 | -183 | -172 | -28 | 267 | 233 | 172 | 211 | 189 | 117 | 67 | 139 | 106 | 72 | 89 | 68 | 267 | |
| 15 | 89 | 133 | 133 | 67 | 89 | 100 | 94 | 28 | -44 | -83 | -94 | -172 | -178 | -194 | -172 | -178 | -161 | -128 | -78 | 50 | 100 | 61 | 89 | 133 | -13 | 133 | |
| 16 | 122 | 56 | 222 | 133 | 100 | 0 | 33 | -33 | -72 | -83 | -111 | -178 | -183 | -200 | -133 | -83 | -133 | -83 | -67 | 28 | -383 | 67 | 17 | 50 | -38 | 222 | |
| 17 | 11 | -117 | 78 | 56 | 72 | 50 | -22 | -339 | -106 | -122 | -206 | -183 | -194 | -144 | -200 | -211 | -178 | -133 | -94 | 56 | 78 | 28 | 50 | 150 | -69 | 150 | |
| 18 | 150 | 189 | 44 | 28 | 128 | 156 | 39 | -44 | -67 | -72 | -89 | -111 | -122 | -122 | -144 | -172 | -111 | -44 | 50 | 106 | 144 | 128 | 56 | 22 | 6 | 189 | |
| 19 | 17 | -67 | -67 | -67 | 67 | 39 | 33 | 33 | -83 | -139 | -106 | -172 | -122 | -156 | -144 | -189 | -172 | -150 | -117 | -89 | -83 | -117 | -272 | -94 | -28 | -85 | 72 |
| 20 | 56 | 50 | 122 | 67 | 122 | 72 | 100 | 94 | -22 | -144 | -128 | -144 | -150 | -167 | -217 | -222 | -111 | -161 | -133 | -78 | 6 | -306 | 167 | 50 | 89 | -34 | 194 |
| 21 | 89 | 128 | 194 | 172 | 72 | 150 | 122 | -78 | 6 | -28 | -106 | -172 | -222 | -228 | -144 | -156 | -161 | -183 | -139 | -94 | -333 | -339 | -33 | -117 | 133 | -69 | 150 |
| 22 | 111 | 122 | 72 | 150 | 150 | 122 | -78 | 6 | -28 | -106 | -172 | -222 | -228 | -144 | -156 | -161 | -183 | -139 | -94 | -333 | -339 | -33 | -117 | 133 | -69 | 150 | |
| 23 | 183 | 294 | 211 | 283 | 344 | 178 | 150 | 106 | 61 | -83 | -111 | -128 | -167 | -194 | -156 | -161 | -183 | -139 | -94 | -333 | -339 | -33 | -117 | 133 | -69 | 150 | |
| 24 | 406 | -289 | 222 | 233 | 239 | 194 | 222 | 78 | -61 | -78 | -139 | -117 | -128 | -178 | -144 | -128 | -156 | -167 | -133 | -83 | -33 | 228 | -350 | -172 | 117 | 4 | 344 |
| 25 | 106 | 150 | 161 | 194 | 167 | 178 | 172 | 33 | -111 | -106 | -267 | -233 | -161 | -183 | -333 | -400 | -356 | -228 | -78 | -206 | -306 | -56 | 44 | 100 | -72 | 194 | |
| 26 | 94 | 72 | 44 | 117 | 211 | 178 | 161 | -6 | -72 | -117 | -172 | -206 | -250 | -172 | -194 | -156 | -117 | -117 | -83 | 78 | 150 | -117 | 11 | 72 | -25 | 211 | |
| 27 | -22 | 67 | 61 | -11 | 83 | 44 | -39 | 6 | -89 | -78 | -222 | -239 | -356 | -239 | -194 | -239 | -161 | -172 | -78 | -144 | -311 | 39 | -11 | -100 | -100 | 183 | |
| 28 | -394 | -94 | 94 | 17 | 33 | 89 | 39 | 78 | -122 | -361 | -689 | -289 | -167 | -172 | 28 | -94 | -83 | -50 | 0 | 33 | 56 | 89 | 128 | -86 | 128 | | |
| 29 | 100 | 44 | 50 | 150 | 111 | 89 | 28 | -39 | -67 | -133 | -133 | -133 | -78 | -100 | -72 | -39 | -61 | -56 | 17 | 133 | 63 | 72 | 44 | 100 | 5 | 150 | |
| 30 | 83 | 28 | 111 | 78 | 89 | 122 | 89 | -6 | -33 | -83 | -128 | -167 | -94 | -156 | -206 | -178 | -122 | -150 | 133 | 233 | 311 | 289 | 261 | 144 | 40 | 311 | |
| 31 | 178 | 194 | 133 | 94 | 150 | 106 | 89 | 144 | -17 | -94 | -172 | -172 | -161 | -67 | -156 | -122 | -117 | -78 | -56 | 44 | 111 | -139 | -94 | 78 | -5 | 194 | |
| AV | 19 | 35 | 61 | 99 | 86 | 81 | 54 | -19 | -84 | -120 | -172 | -179 | -164 | -152 | -152 | -144 | -126 | -91 | -56 | -7 | 9 | -25 | -1 | 41 | -42 | | |
| PK | 294 | 294 | 283 | 344 | 194 | 222 | 144 | -17 | -33 | -78 | -183 | -28 | 267 | 233 | 172 | 211 | 189 | 133 | 233 | 311 | 289 | 261 | 150 | 150 | 344 | | |
| 406 | -289 | -228 | -117 | -339 | -17 | -361 | -689 | -383 | -156 | -244 | -333 | -400 | -356 | -228 | -78 | -206 | -306 | -56 | 44 | 100 | -72 | 194 | -139 | -94 | 78 | -5 | 194 |

MONTHLY MINIMUM = -911

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|
| AV | 19 | 35 | 61 | 99 | 86 | 81 | 54 | -19 | -84 | -120 | -172 | -179 | -164 | -152 | -152 | -144 | -126 | -91 | -56 | -7 | 9 | -25 | -1 | 41 | -42 | |
| PK | 183 | 294 | 222 | 283 | 344 | 194 | 222 | 144 | -17 | -33 | -78 | -111 | -28 | 267 | 233 | 172 | 211 | 189 | 133 | 233 | 311 | 289 | 261 | 150 | 344 | |
| MN | -406 | -294 | -433 | -61 | -289 | -228 | -117 | -339 | -317 | -361 | -689 | -303 | -356 | -244 | -333 | -400 | -356 | -228 | -328 | -333 | -383 | -583 | -911 | -389 | | |

BAROMETRIC PRESSURE
MILLIBARS

CR-TRACT
TRAILER AR23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOURLY (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1 | 800 | 800 | 800 | 800 | 800 | 801 | 801 | 800 | 799 | 800 | 800 | 799 | 799 | 799 | 799 | 797 | 797 | 797 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 801 |
| 2 | 799 | 799 | 799 | 799 | 799 | 800 | 800 | 801 | 800 | 801 | 801 | 801 | 801 | 799 | 799 | 799 | 799 | 799 | 799 | 800 | 800 | 800 | 800 | 801 | 800 | 801 |
| 3 | 801 | 801 | 800 | 800 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 800 | 800 | 800 | 799 | 799 | 799 | 799 | 799 | 800 | 800 | 800 | 800 | 800 | 801 | 801 |
| 4 | 800 | 800 | 800 | 800 | 800 | 800 | 801 | 801 | 801 | 801 | 801 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 801 | 801 | 802 | 802 | 801 | 802 | 801 |
| 5 | 802 | 801 | 801 | 802 | 802 | 802 | 802 | 803 | 802 | 802 | 802 | 802 | 801 | 801 | 801 | 800 | 800 | 800 | 800 | 801 | 801 | 801 | 802 | 801 | 803 | 803 |
| 6 | 802 | 802 | 802 | 802 | 802 | 803 | 803 | 803 | 803 | 803 | 802 | 802 | 801 | 801 | 800 | 800 | 799 | 799 | 799 | 800 | 800 | 801 | 801 | 801 | 801 | 803 |
| 7 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 800 | 800 | 800 | 799 | 799 | 798 | 797 | 797 | 798 | 798 | 798 | 798 | 799 | 800 | 803 |
| 8 | 799 | 799 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 798 | 798 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 799 | 799 |
| 9 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 799 | 799 | 799 | 798 | 798 | 797 | 797 | 796 | 796 | 795 | 795 | 795 | 796 | 797 | 797 | 797 | 797 | 799 | 799 |
| 10 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 798 | 799 | 799 | 798 | 798 | 797 | 797 | 796 | 796 | 795 | 794 | 794 | 795 | 796 | 797 | 798 | 797 | 799 | 799 |
| 11 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 797 | 797 | 797 | 796 | 795 | 794 | 794 | 795 | 796 | 797 | 798 | 797 | 799 | 799 |
| 12 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 800 | 800 | 800 | 800 | 799 | 799 | 799 | 799 | 798 | 798 | 797 | 798 | 798 | 799 | 799 | 799 | 799 | 800 | 800 |
| 13 | 799 | 799 | 799 | 799 | 799 | 800 | 800 | 801 | 801 | 800 | 800 | 800 | 799 | 799 | 799 | 798 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 800 | 800 |
| 14 | 800 | 799 | 800 | 799 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 799 | 799 | 799 | 799 | 798 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 798 | 800 | 800 |
| 15 | 800 | 799 | 799 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 799 | 799 | 799 | 798 | 798 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 798 | 800 | 800 |
| 16 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 800 | 799 | 799 | 799 | 798 | 797 | 797 | 796 | 796 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 797 | 798 |
| 17 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 798 | 797 | 797 | 796 | 795 | 795 | 794 | 795 | 795 | 795 | 795 | 795 | 795 | 796 | 797 |
| 18 | 796 | 795 | 796 | 797 | 796 | 797 | 797 | 797 | 797 | 797 | 793 | 792 | 791 | 791 | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 792 | 792 | 793 | 797 | 799 |
| 19 | 794 | 793 | 793 | 793 | 794 | 793 | 793 | 794 | 794 | 793 | 793 | 793 | 793 | 792 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 792 | 793 | 793 | 794 | 794 |
| 20 | 794 | 793 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | 793 | 793 | 793 | 793 | 793 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 793 | 792 | 793 | 794 | 794 |
| 21 | 793 | 793 | 793 | 793 | 794 | 794 | 794 | 796 | 798 | 798 | 798 | 797 | 797 | 797 | 796 | 796 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 797 | 798 |
| 22 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 798 | 798 |
| 23 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 798 | 799 | 799 | 799 | 799 | 800 | 800 | 800 | 800 | 799 | 800 |
| 24 | 800 | 800 | 800 | 801 | 801 | 801 | 802 | 802 | 802 | 802 | 802 | 802 | 801 | 801 | 800 | 800 | 800 | 800 | 800 | 800 | 801 | 801 | 801 | 801 | 802 | 802 |
| 25 | 800 | 800 | 800 | 801 | 801 | 801 | 801 | 802 | 802 | 802 | 802 | 802 | 801 | 801 | 800 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 800 | 800 |
| 26 | 401 | 801 | 801 | 801 | 801 | 801 | 801 | 802 | 801 | 802 | 801 | 801 | 800 | 800 | 799 | 799 | 799 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 800 | 802 |
| 27 | 401 | 800 | 800 | 801 | 801 | 801 | 801 | 802 | 801 | 802 | 801 | 801 | 800 | 800 | 799 | 799 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 800 | 800 |
| 28 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 799 | 799 | 799 | 799 | 797 | 795 | 795 | 797 | 797 | 797 | 797 | 798 | 798 | 800 | 800 |
| 29 | 799 | 799 | 799 | 799 | 799 | 800 | 800 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 797 | 796 | 794 | 794 | 794 | 794 | 799 | 799 | 799 | 799 | 798 | 799 |
| 30 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 796 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 794 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 798 | 799 |
| 31 | 799 | 799 | 799 | 799 | 800 | 800 | 800 | 800 | 801 | 800 | 800 | 800 | 799 | 799 | 799 | 799 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 799 | 801 |

MONTHLY MINIMUM = 790

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AV | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 798 | 798 | 797 | 797 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 798 | 798 | 798 |
| PK | 802 | 802 | 802 | 802 | 802 | 802 | 803 | 803 | 803 | 803 | 803 | 802 | 802 | 801 | 801 | 801 | 800 | 800 | 800 | 800 | 801 | 801 | 802 | 802 | 802 | 803 |
| MN | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 794 | 793 | 793 | 792 | 791 | 791 | 791 | 790 | 790 | 790 | 790 | 790 | 790 | 791 | 792 | 792 | 792 | 793 | 793 |

PRECIPITATION
CM*100

CB-TRACT
TRAILER AB23
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | TL PEAK |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-------|-----|-----|-----|-----|-----|-------|-------|------|------|------|-------|-----|---------|
| 1 | | | | | | | | | | | | | | | | | | 16 | | | | | | | () |
| 2 | | | | | | | | | 50 | | | | | | | | | | | | | | | | () |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | 66 50 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 22 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 23 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 26 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 27 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 31 | | | | | | | | | | | | | | | | | | 15 10 | | | | | | | () |
| TL | () | () | () | () | () | () | () | () | () | () | () | () | () | () | () | () | () | 32 10 | () | () | () | () | () | () | 204 50 |
| PK | | | 6 6 | 6 6 | 8 8 | 8 8 | | | 50 50 | | | 10 10 | () | () | () | () | () | 16 10 | 10 10 | 3 40 | 3 40 | 3 40 | 39 39 | | |

PRECIPITATION
CH#100

CB TRACT
MRI AD28
AUG 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | TOTAL |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | | | | | | |

STABILITY CLASS USING DT/02
DT 60-104
WS 104

CB-TRACT
TRAILER AM23
AUG 1983
OCCIDENTAL OIL SHALE, INC.

HOUR, (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 2 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | D |
| 3 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E |
| 4 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E |
| 5 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E |
| 6 | F | D | A | C | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 7 | F | D | A | C | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 8 | F | D | A | C | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 9 | F | D | A | C | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 10 | F | D | A | C | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 11 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 12 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 13 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 14 | A | E | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 15 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 16 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 17 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 18 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 19 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E |
| 20 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E |
| 21 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E |
| 22 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 23 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 24 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 25 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 26 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | E |
| 27 | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 28 | F | E | A | B | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 29 | F | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 30 | F | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| 31 | F | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | C |
| AVE | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | D |

TOTAL OCCURRENCES: A=129 B=162 C=39 D=70 E=171 F=164 HOURS MISSING= 9

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

NITRIC OXIDE (NO)

PERIOD(8/01/83 TO 8/31/83)

TRAILER AR23

WIND DIRECTION

W NW NNW CALM TOTAL

CONCENTRATION

MAX

UG/M**3

| | N | NNE | NE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
|-------------|----|-----|----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|------|---------|
| 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 |
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LT 5. : | 29 | 22 | 10 | 20 | 33 | 52 | 83 | 75 | 77 | 83 | 97 | 41 | 23 | 20 | 26 | 29 | 9 : 729 |
| TOTAL : | 29 | 22 | 10 | 20 | 33 | 52 | 83 | 75 | 77 | 83 | 97 | 41 | 23 | 20 | 26 | 29 | 9 : 729 |
| MEAN CONC. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

OXIDES OF NITROGEN (NOx)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(8/01/83 TO 8/31/83)

TRAILER

AR23

| CONCENTRATION
MAX
UG/M ³ | N | | | NE | | | E | | | SE | | | SSE | | | SSW | | | SW | | | WSW | | | W | | | WNW | | | NNW | | | CALM | | | TOTAL | | |
|---|---|---|---|----|---|---|---|---|---|----|---|---|-----|---|---|-----|---|---|----|---|---|-----|---|---|---|---|---|-----|---|---|-----|---|---|------|---|--|-------|--|--|
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 6T | 65. | : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
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MEAN
CONC.

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

NITROGEN DIOXIDE (NO2)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(8/01/H3 TO 8/31/83)

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| CONCENTRATION
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UG/M ³ | WIND DIRECTION | | | | | | | | | | | | | | | |
|---|----------------|-----|----|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|----|-----|
| | SSW | | | | S | | | | SSE | | | | SE | | | |
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW |
| 3 | 1 | 3 | 3 | 3 | 3 | 5 | 3 | 5 | 5 | 3 | 3 | 3 | 1 | 3 | 5 | 3 |
| 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| LT 5. : | 29 | 22 | 10 | 20 | 33 | 51 | 83 | 74 | 75 | 83 | 97 | 41 | 23 | 20 | 25 | 29 |
| TOTAL : | 29 | 22 | 10 | 20 | 33 | 52 | 83 | 75 | 77 | 83 | 97 | 41 | 23 | 20 | 26 | 29 |
| MEAN CONC. | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

OZONE (0.3)

CATHEDRAL BLUFFS SHALE OIL

TRAILER AR23 PERIOD(8/01/83 TO 8/31/83)

| CONCENTRATION
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UG/M ³ | N | | NE | | E | | ESE | | SE | | SSE | | WIND DIRECTION | | | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL | |
|---|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|----|----------------|----|----|----|-----|------|-----|-----|-----|----|----|----|-----|----|------|-----|-------|--|
| | 114 | 113 | 101 | 94 | 90 | 88 | 92 | 101 | 103 | 107 | 105 | 99 | 88 | 88 | 88 | 88 | 88 | 88 | 98 | 107 | 105 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | |
| GT 140. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 130. - 140. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 120. - 130. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 110. - 120. : | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | |
| 100. - 110. : | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 18 | |
| 90. - 100. : | 7 | 1 | 1 | 1 | 2 | 0 | 1 | 2 | 4 | 4 | 21 | 10 | 0 | 5 | 4 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 71 | 71 | |
| 80. - 90. : | 8 | 6 | 2 | 6 | 2 | 6 | 7 | 5 | 10 | 12 | 15 | 10 | 10 | 6 | 10 | 14 | 1 | 1 | 130 | | | | | | | | | 1 | 130 | |
| 70. - 80. : | 4 | 7 | 3 | 3 | 4 | 2 | 20 | 19 | 17 | 20 | 17 | 11 | 7 | 4 | 4 | 6 | 4 | 4 | 6 | 4 | 6 | 4 | 4 | 6 | 4 | 4 | 4 | 152 | 152 | |
| 60. - 70. : | 2 | 2 | 1 | 2 | 11 | 22 | 33 | 28 | 22 | 24 | 31 | 2 | 2 | 1 | 3 | 3 | 2 | 2 | 1 | 3 | 3 | 2 | 2 | 0 | 2 | 2 | 2 | 191 | 191 | |
| 50. - 60. : | 2 | 2 | 0 | 4 | 8 | 12 | 19 | 8 | 10 | 13 | 10 | 5 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | 2 | 0 | 2 | 101 | 101 | |
| 40. - 50. : | 1 | 1 | 2 | 4 | 5 | 7 | 4 | 7 | 4 | 3 | 4 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 47 | 47 | |
| 30. - 40. : | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 5 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 15 | |
| 20. - 30. : | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 10 | 10 | |
| LT 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | |
| TOTAL : | 28 | 22 | 10 | 21 | 33 | 51 | 84 | 75 | 77 | 83 | 102 | 42 | 23 | 20 | 25 | 34 | 9 | 739 | | | | | | | | | | 9 | 739 | |
| PERCENT | 4. | 3. | 1. | 3. | 4. | 7. | 11. | 10. | 10. | 11. | 14. | 6. | 3. | 3. | 3. | 5. | 1. | 100. | | | | | | | | | | 1. | 100. | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

CARBON MONOXIDE (CO)

TRAILER AR23 PERIOD(8/01/83 TO 8/31/83)

| CONCENTRATION
MAX
US/Mes3 | WIND DIRECTION | | | | | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | | | |
|---------------------------------|----------------|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|-----|----|-------|-----|----|-----|----|----|----|-----|----|----|----|-----|----|------|---|-------|
| | N | | NE | | ENE | | E | | ESE | | SE | | SSE | | SSW | | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL |
| | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | | |
| GT 1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 200. -1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 100. -1200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 000. -1100. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 900. -1000. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 800. - 900. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 700. - 800. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 600. - 700. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 500. - 600. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 400. - 500. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 300. - 400. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 200. - 300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 100. - 200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| LT 100. : | 29 | 22 | 10 | 21 | 33 | 51 | 84 | 75 | 77 | 83 | 97 | 41 | 23 | 20 | 28 | 34 | 9 | 737 | | | | | | | | | | | | | | |
| TOTAL : | 29 | 22 | 10 | 21 | 33 | 51 | 84 | 75 | 77 | 83 | 97 | 41 | 23 | 20 | 28 | 34 | 9 | 737 | | | | | | | | | | | | | | |
| MEAN
CONC. | 42 | 36 | 42 | 41 | 44 | 43 | 44 | 43 | 41 | 38 | 38 | 37 | 41 | 43 | 42 | 42 | 38 | 41 | | | | | | | | | | | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

SULFUR DIOXIDE (SO2)

PERIOD(8/01/83 TO 8/31/83)

TRAILER AB23

CATHEDRAL BLUFFS SHALE OIL

WIND DIRECTION

W

W NW CALM TOTAL

WSW W

W NW

CONCENTRATION
MAX
UG/M³

| | N | NNE | NE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
|-------------|----|-----|----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|------|-------|
| 10 | 7 | 7 | 10 | 13 | 10 | 13 | 13 | 13 | 13 | 13 | 10 | 15 | 10 | 13 | 10 | 10 | |
| GT 13. : | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 6 | 0 | 1 | 0 | 1 | 0 | 14 |
| 12. - 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. - 12. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 11. : | 2 | 0 | 0 | 1 | 2 | 3 | 6 | 5 | 8 | 10 | 2 | 3 | 3 | 4 | 1 | 1 | 53 |
| 9. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. - 9. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7. - 8. : | 4 | 2 | 1 | 1 | 4 | 3 | 5 | 6 | 8 | 5 | 3 | 2 | 3 | 3 | 3 | 0 | 57 |
| 6. - 7. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 6. : | 4 | 5 | 0 | 3 | 6 | 8 | 12 | 8 | 13 | 6 | 15 | 6 | 3 | 1 | 4 | 4 | 99 |
| 4. - 5. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. - 4. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. - 3. : | 3 | 2 | 3 | 1 | 4 | 6 | 20 | 14 | 8 | 10 | 7 | 4 | 3 | 5 | 6 | 8 | 105 |
| 1. - 2. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LT 1. : | 14 | 11 | 6 | 15 | 16 | 32 | 45 | 41 | 43 | 49 | 55 | 26 | 11 | 8 | 10 | 17 | 405 |
| TOTAL : | 27 | 20 | 10 | 21 | 33 | 52 | 84 | 75 | 76 | 83 | 98 | 41 | 23 | 20 | 28 | 33 | 733 |
| MEAN CONC. | 3 | 2 | 1 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 4 | 2 | 2 |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

HYDROGEN SULFIDE (H2S)

PERIOD(8/01/83 TO 8/31/83)

TRAILER

AB23

WIND DIRECTION

| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
|---------------|-----|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|------|-------|
| CONCENTRATION | 6 | 5 | 5 | 6 | 5 | 8 | 5 | 6 | 6 | 6 | 6 | 5 | 5 | 5 | 8 | 6 | 4 | |
| MAX | | | | | | | | | | | | | | | | | | |
| UG/4883 | | | | | | | | | | | | | | | | | | |
| GT | 13. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. | 13. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. | 12. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. | 11. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9. | 10. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. | 9. | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7. | 8. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. | 7. | 1 | 0 | 1 | 2 | 3 | 1 | 2 | 4 | 6 | 9 | 7 | 1 | 2 | 3 | 3 | 2 | 10 |
| 5. | 6. | 4 | 6 | 1 | 2 | 3 | 1 | 2 | 4 | 6 | 9 | 6 | 13 | 3 | 1 | 2 | 6 | 60 |
| 4. | 5. | 7 | 3 | 1 | 2 | 2 | 1 | 6 | 9 | 6 | 6 | 6 | 13 | 3 | 1 | 2 | 8 | 78 |
| 3. | 4. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. | 3. | 5 | 3 | 1 | 0 | 5 | 7 | 15 | 8 | 7 | 4 | 11 | 2 | 8 | 4 | 6 | 5 | 96 |
| 1. | 2. | 0 | 2 | 4 | 5 | 6 | 9 | 8 | 10 | 13 | 17 | 9 | 3 | 6 | 1 | 4 | 0 | 99 |
| LT | 1. | 4 | 8 | 4 | 12 | 18 | 36 | 52 | 45 | 46 | 53 | 27 | 9 | 5 | 9 | 12 | 5 | 395 |
| TOTAL | 29 | 22 | 9 | 21 | 33 | 52 | 84 | 75 | 76 | 83 | 102 | 42 | 23 | 20 | 27 | 34 | 8 | 740 |
| MEAN CONC. | 3 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 2 | 2 | 1 | 1 |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

10 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(8/01/83 TO 8/31/83)

WIND DIRECTION

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | | TOTAL | |
|---------------------------------|----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|-----|-------|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| 3 | 3 | 3 | 3 | 2 | 2 | 2 | 4 | 5 | 5 | 6 | 7 | 4 | 4 | 4 | 3 | 4 | 0 | |
| | | | | | | | | | | | | | | | | | | |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 8. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| 3. - 5. : | 1 | 4 | 2 | 0 | 0 | 0 | 3 | 14 | 15 | 21 | 32 | 13 | 2 | 4 | 1 | 5 | 0 | 117 |
| 1. - 3. : | 16 | 8 | 3 | 12 | 19 | 39 | 60 | 43 | 40 | 33 | 50 | 16 | 15 | 13 | 19 | 21 | 0 | 407 |
| LT 1. : | 12 | 10 | 5 | 9 | 14 | 13 | 21 | 17 | 18 | 25 | 19 | 13 | 6 | 3 | 8 | 8 | 0 | 201 |
| TOTAL : | 29 | 22 | 10 | 21 | 33 | 52 | 84 | 75 | 77 | 83 | 102 | 42 | 23 | 20 | 28 | 34 | 0 | 735 |
| | | | | | | | | | | | | | | | | | | |
| PERCENT | 4. | 3. | 1. | 3. | 4. | 7. | 11. | 10. | 10. | 11. | 14. | 6. | 3. | 3. | 4. | 5. | 0. | 100. |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

30 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(8/01/83 TO 8/31/83)

WIND DIRECTION

| WIND SPEED
MAX
METERS/SEC | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
|---------------------------------|----|-----|----|-----|----|-----|-----|-----|----|-----|-----|-----|----|-----|----|-----|-----|-------|
| 4 | 4 | 4 | 4 | 3 | 3 | 4 | 7 | 7 | 8 | 10 | 6 | 5 | 7 | 5 | 4 | 6 | 0 | |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 5. - 8. : | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 12 | 20 | 10 | 2 | 1 | 2 | 0 | 2 | 0 | 64 |
| 3. - 5. : | 5 | 7 | 2 | 2 | 5 | 21 | 34 | 22 | 17 | 24 | 37 | 12 | 5 | 11 | 3 | 5 | 0 | 212 |
| 1. - 3. : | 15 | 7 | 4 | 13 | 23 | 39 | 44 | 28 | 20 | 14 | 22 | 14 | 14 | 14 | 22 | 13 | 0 | 306 |
| LT 1. : | 12 | 8 | 6 | 6 | 7 | 10 | 11 | 8 | 16 | 19 | 13 | 9 | 8 | 5 | 4 | 5 | 0 | 147 |
| TOTAL : | 32 | 22 | 12 | 21 | 35 | 70 | 95 | 67 | 67 | 80 | 82 | 37 | 28 | 32 | 29 | 25 | 0 | 734 |
| PERCENT | 4. | 3. | 2. | 3. | 5. | 10. | 13. | 9. | 9. | 11. | 11. | 5. | 4. | 4. | 4. | 3. | 0. | 100. |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

CATHEDRAL BLUFFS SHALE OIL

60 METER LEVEL

STATION AA23 PERIOD(8/01/83 TO 8/31/83)

WIND DIRECTION

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | | TOTAL |
|---------------------------------|----------------|-----|----|-----|----|-----|-----|-----|----|-----|-----|-----|----|-----|----|-----|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR |
| 4 | 4 | 4 | 4 | 4 | 4 | 5 | 7 | 8 | 8 | 12 | 7 | 6 | 8 | 5 | 4 | 6 | 0 |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 10 |
| 5. - 8. : | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 13 | 21 | 26 | 18 | 5 | 0 | 3 | 0 | 2 | 101 |
| 3. - 5. : | 7 | 8 | 3 | 4 | 4 | 16 | 41 | 33 | 16 | 20 | 36 | 10 | 6 | 10 | 9 | 6 | 229 |
| 1. - 3. : | 12 | 9 | 4 | 12 | 21 | 26 | 37 | 33 | 14 | 18 | 20 | 12 | 15 | 16 | 20 | 17 | 286 |
| LT 1. : | 3 | 9 | 3 | 5 | 3 | 13 | 7 | 10 | 11 | 10 | 5 | 11 | 11 | 5 | 4 | 5 | 115 |
| TOTAL : | 22 | 26 | 10 | 21 | 28 | 59 | 94 | 92 | 65 | 79 | 79 | 38 | 33 | 34 | 33 | 30 | 743 |
| PERCENT | 3. | 3. | 1. | 3. | 4. | 8. | 13. | 12. | 9. | 11. | 11. | 5. | 4. | 5. | 4. | 4. | 100. |

0 = NO OBSERVATIONS

FIVE MAXIMUM SLIDING AVERAGE
UG/M³

C-8 TRACT
SITE AR23
AUG 1983
CATHEDRAL

BLUFFS SHALE OIL CO.

| COMPONENT | AVG. TIME | RANK | DAY | HOUR (BEG) | VALUE |
|-----------|-----------|------|-----|------------|-------|
| S02 | 3 HR | 1 | 14 | 6 | 13.1 |
| | | 2 | 16 | | 13.1 |
| | | 3 | 14 | 10 | 12.2 |
| | | 4 | 14 | 15 | 11.3 |
| | | 5 | 15 | 2 | 11.3 |
| S02 | 24 HR | 1 | 15 | 22 | 10.8 |
| | | 2 | 14 | 6 | 10.5 |
| | | 3 | 10 | 16 | 7.7 |
| | | 4 | 9 | 14 | 7.0 |
| C0 | 1 HR | 1 | 16 | 22 | 6.8 |
| | | 1 | 1 | 7 | 80.0 |
| | | 2 | 1 | 1 | 70.0 |
| | | 3 | 1 | 2 | 70.0 |
| C0 | 8 HR | 1 | 1 | 3 | 70.0 |
| | | 2 | 1 | 4 | 70.0 |
| | | 3 | 1 | | 70.0 |
| | | 4 | 1 | | 70.0 |
| 03 | 1 HR | 1 | 1 | 13 | 76.0 |
| | | 2 | 8 | 13 | 68.0 |
| | | 3 | 4 | 24 | 60.0 |
| | | 4 | 5 | 1 | 60.0 |
| PART | 24 HR | 1 | 6 | 17 | 119.7 |
| | | 2 | 6 | 18 | 113.8 |
| | | 3 | 5 | 14 | 107.9 |
| | | 4 | 18 | 19 | 107.9 |
| | | 5 | 5 | 13 | 105.9 |
| PART | 24 HR | 1 | 10 | 1 | 27.8 |
| | | 2 | 22 | 1 | 21.9 |
| | | 3 | 6 | 1 | 17.5 |
| | | 4 | 18 | 1 | 17.4 |

DATA ACQUISITION INSTRUMENT EFFICIENCY
CATHEDRAL BLUFFS SHALE OIL COMPANY
A.Q. TRAILER AB23

AUGUST 1983

GASEOUS
PARAMETERS

NOX: 100 %

NO: 100

NO2: 100

O3: 100

CO: 100

SO2: 100

H2S: 100

PARTICULATES: 100 %

METEOROLOGICAL
PARAMETERS

WIND SPEED

10 M: 100 %

30 M: 100

60 M: 100

WIND DIRECTION

10 M: 100

30 M: 100

60 M: 100

SIGMA HORIZONTAL

WIND DIRECTION

10 M: 100

30 M: 100

60 M: 100

TEMPERATURE

10 M: 100

30 M: 100

60 M: 100

DELTA TEMPERATURE: 100

RELATIVE HUMIDITY: 100

SOLAR RADIATION: 100

BAROMETRIC PRESSURE: 100

PRECIPITATION: 100

SEPTEMBER

OCTOBER

NOVEMBER

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NITRIC OXIDE
(UG/M3)

CR-TRACT
TRAILER AB23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

hour (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 2 | 1 | 2 |
| 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 8 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 |
| 9 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 10 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 11 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 12 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 13 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 14 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 15 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 16 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 17 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 18 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 19 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 20 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 21 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 22 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 23 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 24 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 25 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 26 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 28 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 29 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
| 30 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| AV | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 1 | 2 |
| PK | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 2 |

OXIDES OF NITROGEN
(106/H3)

CB-TRACT
TRAILER #823
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 4 | 4 | 4 | 2 | 2 | 2 | 4 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 3 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 6 |
| 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 6 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 7 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 8 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 9 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 10 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 11 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 12 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 13 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 14 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 15 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 16 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 17 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 18 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 19 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 20 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 21 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 22 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 23 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 24 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 25 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 26 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 27 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 28 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 29 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 30 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| AV | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 6 |
| PK | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 2 | 4 | 4 | 4 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

NITROGEN DIOXIDE
(UG/M3)

C8-TRACT
TRAILER AB23
SEPT. 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|---|---|---|---|---|---|---|---|---|----|------|------|------|------|----|----|----|----|----|----|----|----|----|----|-----|------|---|
| 1 | 0 | 2 | 0 | 2 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 1 | 2 |
| 2 | 4 | 0 | 0 | 0 | 2 | 4 | 2 | 2 | 0 | 4 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 0 | 1 | 4 |
| 3 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 4 |
| 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 |
| 5 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 2 | 0 | 0 | 4 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 2 |
| 7 | 4 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 4 |
| 8 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 |
| 9 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 4 |
| 10 | 4 | 2 | 0 | 2 | 0 | 4 | 0 | 0 | 2 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 2 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 12 | 2 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 0 | (CA) | (CA) | (CA) | (CA) | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 13 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 14 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 2 |
| 16 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 |
| 17 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 18 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 4 | 2 | 2 | 2 | 0 | 4 | 2 | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 4 |
| 19 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 2 |
| 20 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 21 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 4 |
| 22 | 2 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 23 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 1 | 2 |
| 24 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 2 |
| 25 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | (CA) | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 1 | 4 |
| 26 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 4 | 2 | 0 | 4 | 2 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 4 |
| 27 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 |
| 28 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 1 | 4 |
| 29 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 2 | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 2 |
| 30 | 4 | 0 | 2 | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 4 |
| AV | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 4 |

CB-TRACT
TRAILER AB23
SEPT 1983
CATHEDRAL BLU

CATHEDRAL BLUFFS SHALE OIL CO.

| AV | 84 | 84 | 84 | 80 | 80 | 80 | 76 | 71 | 80 | 94 | 98 | 100 | 106 | 116 | 114 | 112 | 106 | 94 | 90 | 92 | 100 | 102 |
|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|----|----|----|-----|-----|
| PK | 84 | 84 | 84 | 80 | 80 | 80 | 76 | 71 | 80 | 94 | 98 | 100 | 106 | 116 | 114 | 112 | 106 | 94 | 90 | 92 | 100 | 102 |

CARBON MONOXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 30 | 30 | 20 | 20 | 20 | 20 | 30 | 30 | 30 | 30 | 20 | 20 | 20 | 20 | 20 | 20 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 2 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 3 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 4 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 5 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 6 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 7 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 8 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 9 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 10 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 11 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 12 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 13 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 14 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 15 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 16 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 17 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 18 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 19 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 20 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 21 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 22 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 23 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 24 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 25 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 26 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 27 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 28 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 29 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 30 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| AV | 35 | 36 | 36 | 35 | 36 | 36 | 36 | 37 | 36 | 36 | 35 | 34 | 33 | 32 | 31 | 31 | 33 | 34 | 34 | 33 | 34 | 34 | 34 | 35 | 34 | 34 |
| PK | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |

SULFUR DIOXIDE
(UG/M3)

CR-TRACT
TRAILER AB23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 10 | 10 | 8 | 10 | 10 | 10 | 10 | 8 | 8 | 8 | 5 | 5 | 5 | 8 | 8 | 5 | 8 | 8 | 8 | 10 | 8 | 10 | 8 | 4 | 10 | 10 |
| 25 | 8 | 10 | 8 | 8 | 10 | 8 | 10 | 8 | 8 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 8 | 8 | 8 | 8 | 8 | 10 | 8 | 9 | 10 | 10 |
| 26 | 8 | 8 | 8 | 10 | 8 | 8 | 10 | 13 | 10 | 10 | 10 | 13 | 13 | 10 | 8 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 13 | 10 |
| 27 | 16 | 13 | 10 | 10 | 13 | 8 | 8 | 8 | 8 | 10 | 10 | 8 | 8 | 8 | 5 | 10 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 5 | 9 | 16 |
| 28 | 5 | 8 | 8 | 8 | 8 | 8 | 8 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 7 | 10 |
| 29 | 3 | 5 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 5 |
| 30 | 5 | 5 | 5 | 3 | 3 | 8 | 5 | 5 | 5 | 5 | 8 | 5 | 8 | 5 | 5 | 8 | 8 | 5 | 8 | 8 | 5 | 5 | 8 | 8 | 6 | 8 |
| AV | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 16 |
| PK | 16 | 13 | 10 | 10 | 10 | 13 | 10 | 13 | 10 | 10 | 10 | 13 | 13 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 16 |

HYDROGEN SULFIDE
(UG/M3)

CB-TRACT
TRAILER AB23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 4 | 3 | 4 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 1 | 1 | 1 | 2 | 4 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 0 | 1 | 1 | 0 | 1 | 3 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 3 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 2 | 3 |
| 4 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 6 |
| 5 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 4 | 4 | 4 | 6 | 7 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 6 |
| 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 6 |
| 7 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 1 | 4 | 7 |
| 8 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 1 | 4 | 7 |
| 9 | 1 | 3 | 3 | 1 | 3 | 1 | 3 | 0 | 1 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 1 | 3 | 1 | 1 | 3 | 3 | 4 |
| 10 | 3 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 4 |
| 11 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 4 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 4 | 4 | 3 | 4 | 3 | 3 | 3 | 7 | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 7 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 3 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 1 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 3 | 1 | 1 |
| 18 | 3 | 3 | 4 | 4 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 4 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 6 |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 1 | 3 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 1 | 0 | 1 | 3 |
| 23 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 8 | 4 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 4 | 3 | 8 |
| AV | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 8 |
| PK | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 6 | 6 | 6 | 7 | 7 | 8 | 6 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 4 | 3 | 8 |

PARTICULATE DATA
UG/M3

C-B TRACT
SEPT 1983
OCCIDENTAL OIL SHALE, INC.

| DAY | AH20 | AH23 | STATION
AB26 | AD42 | AD56 |
|------|------|------|-----------------|------|------|
| 3 | () | 22.4 | () | () | () |
| 7 | () | 22.6 | () | () | () |
| 11 | () | 34.7 | () | () | () |
| 15 | () | 24.6 | () | () | () |
| 19 | () | 46.9 | () | () | () |
| 23 | () | 14.5 | () | () | () |
| 27 | () | 15.5 | () | () | () |
| AVE | () | 25.9 | () | () | () |
| GM | () | 24 | () | () | () |
| PEAK | () | 46.9 | () | () | () |

WIND SPEED 10M
METERS/SEC

CH-TRACT
TRAILER AA23
SEP 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 4 | 4 | 3 | 1 | 2 | 3 | 4 | 4 | 4 | 2 | 5 | 5 | 2 | 5 |
| 2 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 5 | 5 | 2 | 6 | 7 | 7 | 6 | 5 | 4 | 2 | 3 | 2 | 1 | 4 | 4 | 3 | 3 |
| 3 | 4 | 1 | 1 | 2 | 2 | 3 | 0 | 1 | 3 | 1 | 2 | 2 | 1 | 5 | 5 | 1 | 6 | 4 | 0 | 1 | 0 | 1 | 2 | 2 | 1 | 7 |
| 4 | 5 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | 3 | 3 | 5 | 1 | 5 | 5 | 2 | 4 | 5 | 4 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 |
| 5 | 6 | 1 | 2 | 2 | 0 | 1 | 3 | 2 | 1 | 1 | 1 | 4 | 4 | 3 | 5 | 2 | 6 | 3 | 2 | 2 | 7 | 7 | 5 | 0 | 5 | |
| 6 | 7 | 1 | 0 | 2 | 2 | 1 | 3 | 1 | 2 | 1 | 3 | 1 | 4 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 5 | 4 | 3 | |
| 7 | 8 | 4 | 6 | 6 | 0 | 0 | 0 | 1 | 2 | 5 | 5 | 4 | 4 | 6 | 5 | 5 | 4 | 3 | 3 | 1 | 1 | 2 | 2 | 2 | 4 | 6 |
| 8 | 9 | 2 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 5 | 5 | 6 | 5 | 5 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 0 | 1 | 6 |
| 9 | 10 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 3 | 2 | 5 | 2 | 4 | 3 | 3 | 2 | 2 | 0 | 1 | 1 | 2 | 2 | 4 |
| 10 | 11 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 4 | 5 | 4 | 3 | 4 | 4 | 2 | 2 | 0 | 1 | 1 | 2 | 2 | 4 |
| 11 | 12 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 1 | 2 | 4 | 6 | 5 | 3 | 4 | 4 | 2 | 2 | 0 | 1 | 1 | 2 | 2 | 4 |
| 12 | 13 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 5 | 5 | 6 | 4 | 4 | 4 | 4 | 2 | 3 | 3 | 1 | 1 | 2 | 2 | 4 |
| 13 | 14 | 1 | 3 | 5 | 0 | 0 | 2 | 3 | 2 | 4 | 5 | 5 | 5 | 6 | 4 | 4 | 4 | 4 | 2 | 3 | 3 | 1 | 1 | 0 | 1 | 6 |
| 14 | 15 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 5 | 5 | 6 | 4 | 4 | 4 | 4 | 2 | 3 | 3 | 1 | 1 | 1 | 2 | 6 |
| 15 | 16 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 3 | 5 | 5 | 6 | 4 | 4 | 4 | 4 | 2 | 3 | 3 | 1 | 1 | 1 | 2 | 6 |
| 16 | 17 | 1 | 3 | 0 | 1 | 1 | 3 | 3 | 1 | 2 | 3 | 8 | 7 | 5 | 5 | 5 | 6 | 1 | 3 | 2 | 3 | 0 | 0 | 0 | 3 | 8 |
| 17 | 18 | 5 | 6 | 2 | 2 | 4 | 7 | 4 | 6 | 4 | 6 | 8 | 6 | 6 | 5 | 5 | 6 | 6 | 3 | 2 | 7 | 6 | 5 | 3 | 5 | 8 |
| 18 | 19 | 5 | 6 | 2 | 2 | 4 | 7 | 7 | 9 | 8 | 9 | 9 | 8 | 4 | 1 | 1 | 9 | 7 | 2 | 4 | 4 | 4 | 2 | 3 | 6 | 9 |
| 19 | 20 | 2 | 3 | 3 | 3 | 2 | 7 | 7 | 9 | 8 | 9 | 9 | 8 | 4 | 1 | 1 | 9 | 7 | 2 | 4 | 4 | 4 | 2 | 3 | 6 | 9 |
| 20 | 21 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 4 | 4 | 2 | 2 | 3 | 1 | 1 | 2 | 1 | 2 | 2 | 3 |
| 21 | 22 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 4 | 4 | 2 | 2 | 4 | 3 | 3 | 4 | 1 | 2 | 3 | 4 | 4 |
| 22 | 23 | 1 | 1 | 2 | 2 | 2 | 1 | 5 | 4 | 0 | 5 | 1 | 2 | 3 | 3 | 3 | 2 | 4 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 6 |
| 23 | 24 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 4 | 0 | 2 | 1 | 2 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 4 | 0 | 0 | 0 | 1 | 3 |
| 24 | 25 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 1 | 1 | 2 | 4 | 3 | 3 | 6 | 4 | 1 | 2 | 4 | 2 | 6 | 2 | 4 | 6 |
| 25 | 26 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 5 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 0 | 4 | 2 | 3 | 6 |
| 26 | 27 | 5 | 4 | 4 | 2 | 5 | 2 | 5 | 6 | 5 | 6 | 4 | 5 | 8 | 6 | 6 | 5 | 4 | 1 | 2 | 3 | 2 | 2 | 5 | 5 | 8 |
| 27 | 28 | 2 | 3 | 4 | 1 | 2 | 2 | 3 | 6 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 4 | 7 |
| 28 | 29 | 4 | 4 | 4 | 4 | 4 | 1 | 0 | 2 | 4 | 4 | 4 | 4 | 5 | 6 | 4 | 5 | 6 | 4 | 4 | 4 | 3 | 2 | 2 | 4 | 7 |
| 29 | 30 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 6 | 5 | 4 | 3 | 3 | 4 | 5 | 3 | 3 | 4 | 4 | 3 | 5 | 5 | 7 | 2 | 4 | 7 |
| AV | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 9 |
| PK | 5 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 9 | 8 | 8 | 9 | 8 | 8 | 8 | 8 | 8 | 9 | 8 | 7 | 7 | 7 | 7 | 5 | 3 | 9 |

WIND SPEED @ 30M
METERS/SEC

CB-TRACT
TRAILER AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|------|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|-----|------|
| 1 | 2 | 1 | 4 | 1 | 2 | 0 | 3 | 2 | 2 | 2 | 2 | 4 | 5 | 9 | 4 | 2 | 3 | 4 | 5 | 6 | 6 | 3 | 8 | 8 | 3 | 9 |
| 2 | 1 | 0 | 2 | 1 | 3 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 10 | 8 | 9 | 7 | 2 | 5 | 7 | 1 | 2 | 2 | 4 | 10 |
| 3 | 1 | 0 | 3 | 3 | 4 | 5 | 2 | 3 | 2 | 2 | 2 | 6 | 8 | 8 | 2 | 1 | 7 | 1 | 3 | 5 | 0 | 1 | 3 | 3 | 2 | 5 |
| 4 | 5 | 3 | 1 | 3 | 0 | 3 | 12 | 2 | 4 | 4 | 2 | 6 | 7 | 8 | 4 | 7 | 6 | 6 | 6 | 4 | 4 | 1 | 1 | 2 | 4 | 8 |
| 5 | 6 | 2 | 1 | 0 | 0 | 0 | (CM) | 3 | 2 | 1 | 2 | 5 | 3 | 4 | 4 | 3 | 2 | 4 | 10 | 10 | 10 | 12 | 2 | 6 | 2 | 10 |
| 6 | 7 | 2 | 1 | 3 | 1 | 0 | 0 | 1 | 3 | 7 | 7 | 6 | 7 | 8 | 8 | 8 | 8 | 7 | 5 | 5 | 4 | 5 | 8 | 6 | 5 | 10 |
| 7 | 8 | 7 | 8 | 3 | 4 | 2 | 1 | 2 | 4 | 9 | 8 | 8 | 8 | 8 | 7 | 8 | 8 | 5 | 5 | 5 | 4 | 3 | 4 | 3 | 5 | 8 |
| 8 | 9 | 4 | 3 | 3 | 3 | 2 | 0 | 0 | 1 | 1 | 1 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 1 | 1 | 1 | (CM) | 1 | 2 | 5 |
| 9 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 4 | 6 | 6 | 3 | 3 | 2 | 1 | 1 | 1 | 3 | 8 |
| 10 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 5 | 7 | 8 | 7 | 5 | 5 | 5 | 5 | 4 | 5 | 4 | 2 | 6 |
| 11 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 3 | 4 | 4 | 5 | 7 | 6 | 6 | 3 | 3 | 2 | 1 | 1 | 1 | 3 | 8 |
| 12 | 1 | 4 | 1 | 1 | 4 | 1 | 3 | 4 | 3 | 5 | 7 | 8 | 7 | 9 | 8 | 5 | 6 | 6 | 3 | 2 | 3 | 3 | 1 | 1 | 3 | 6 |
| 13 | 0 | 4 | 0 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 3 | 5 | 1 | 1 | 1 | 4 | 7 |
| 14 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 4 | 5 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 3 | 3 | 1 | 1 | 1 | 3 | 6 |
| 15 | 1 | 1 | 1 | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 4 | 5 | 4 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 3 | 1 | 1 | 1 | 4 | 7 |
| 16 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 3 | 11 | 9 | 9 | 8 | 5 | 6 | 6 | 6 | 3 | 6 | 4 | (CM) | 2 | 5 | 11 |
| 17 | 0 | 0 | 1 | 1 | 1 | 3 | 5 | 5 | 5 | 5 | 8 | 11 | 9 | 7 | 7 | 7 | 8 | 6 | 5 | 3 | 6 | 6 | 6 | 2 | 4 | 11 |
| 18 | 1 | 7 | 9 | 10 | 11 | 10 | 12 | 8 | 13 | 12 | 11 | 13 | 12 | 9 | 10 | 11 | 9 | 11 | 11 | 10 | 10 | 9 | 5 | 4 | 9 | 13 |
| 19 | 3 | 4 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 4 | 3 | 3 | 2 | 4 | 10 | 5 | 4 | 4 | 1 | 1 | 0 | 2 | 4 |
| 20 | 3 | 0 | (CM) | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 3 | 1 | 1 | 2 | 3 | 5 | 3 | 6 | 0 | 1 | 1 | 1 | 3 | 6 |
| 21 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 2 | 2 | 2 | 2 | 3 | 5 | 5 | 3 | 6 | 5 | 5 | 7 | 2 | 7 | 4 | 1 | 3 | 7 |
| 22 | 1 | 1 | 1 | 3 | 3 | 1 | 2 | 8 | 5 | 8 | 7 | 2 | 3 | 4 | 2 | 3 | 3 | 5 | 2 | 2 | 3 | 2 | 2 | 1 | 3 | 8 |
| 23 | 1 | 4 | 4 | 3 | 3 | 3 | 0 | 1 | 0 | 1 | 0 | 2 | 3 | 5 | 4 | 4 | 3 | 2 | 4 | 3 | 2 | 2 | 1 | 0 | 3 | 5 |
| 24 | 4 | 2 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 3 | 6 | 1 | 2 | 4 | 4 | 3 | 2 | 5 | 6 | 0 | 0 | 1 | 4 |
| 25 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 2 | 0 | 6 | 9 | 11 | 6 | 10 | 9 | 9 | 6 | 5 | 5 | 5 | 6 | 9 | 6 | 4 | 9 |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 7 | 8 | 8 | 8 | 9 | 9 | 11 | 10 | 5 | 6 | 5 | 2 | 4 | 4 | 6 | 4 | 4 | 7 | 11 |
| 27 | 4 | 4 | 4 | 4 | 1 | 4 | 6 | 5 | 5 | 8 | 7 | 6 | 6 | 6 | 6 | 5 | 6 | 5 | 7 | 6 | 5 | 6 | 5 | 4 | 5 | 7 |
| 28 | 4 | 4 | 4 | 4 | 1 | 4 | 3 | 4 | 5 | 7 | 7 | 6 | 6 | 6 | 8 | 5 | 6 | 5 | 6 | 6 | 5 | 6 | 4 | 4 | 5 | 7 |
| 29 | 5 | 5 | 5 | 6 | 6 | 7 | 3 | 1 | 2 | 6 | 6 | 5 | 5 | 4 | 7 | 5 | 8 | 8 | 6 | 6 | 8 | 4 | 4 | 3 | 5 | 8 |
| 30 | 3 | 4 | 2 | 4 | 5 | 3 | 4 | 4 | 9 | 7 | 5 | 4 | 4 | 5 | 7 | 4 | 4 | 5 | 6 | 5 | 8 | 8 | 11 | 8 | 5 | 11 |
| AV | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 5 | 5 | 5 | 6 | 6 | 5 | 6 | 5 | 5 | 4 | 4 | 4 | 4 | 3 | 4 | 13 |
| PK | 7 | 9 | 10 | 11 | 10 | 11 | 10 | 12 | 13 | 12 | 11 | 13 | 12 | 11 | 10 | 11 | 13 | 10 | 11 | 11 | 10 | 10 | 11 | 8 | | |

WIND SPEED # 60M
METERS/SEC

CB-TRACT
TRAILER AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

WIND (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|-----|------|
| 1 | 1 | 1 | 0 | 1 | 2 | 1 | 3 | 4 | 2 | 2 | 2 | 4 | 6 | 5 | 4 | 3 | 4 | 5 | 6 | 8 | 7 | 4 | 8 | 9 | 4 | 9 |
| 2 | 3 | 4 | 1 | 2 | 3 | 2 | 2 | 3 | 3 | 7 | 8 | 7 | 8 | 10 | 10 | 9 | 10 | 7 | 5 | 5 | 8 | 0 | 3 | 3 | 1 | 4 |
| 3 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 4 | 3 | 2 | 3 | 3 | 3 | 8 | 10 | 8 | 9 | 10 | 4 | 6 | 8 | 8 | 3 | 2 | 4 | 10 |
| 4 | 3 | 1 | 4 | 4 | 0 | 6 | 1 | 1 | 4 | 2 | 4 | 4 | 2 | 2 | 3 | 1 | 12 | 1 | 1 | 2 | 3 | 1 | 4 | 4 | 2 | 6 |
| 5 | 5 | 1 | 2 | 3 | 0 | 3 | 4 | 3 | 4 | 4 | 7 | 6 | 7 | 8 | 8 | 6 | 7 | 7 | 7 | 8 | 4 | 0 | 1 | 2 | 4 | 8 |
| 6 | 3 | 1 | 1 | 1 | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 2 | 4 | 3 | 0 | 1 | 2 | 9 | 7 | 2 | 4 |
| 7 | 1 | 0 | 3 | 3 | 2 | 0 | 5 | 4 | 3 | 2 | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 9 | 12 | 11 | 11 | 12 | 2 | 7 | 6 | 12 |
| 8 | 4 | 9 | 9 | 1 | 1 | 1 | 1 | 1 | 3 | 8 | 8 | 6 | 7 | 8 | 8 | 8 | 7 | 7 | 6 | 6 | 6 | 6 | 9 | 4 | 6 | 9 |
| 9 | 4 | 2 | 2 | 4 | 5 | 4 | 4 | 3 | 5 | 8 | 8 | 4 | 9 | 9 | 8 | 8 | 8 | 5 | 7 | 7 | 7 | 4 | 5 | 4 | 6 | 9 |
| 10 | 1 | 2 | 2 | 3 | 3 | 2 | 0 | 1 | 0 | 1 | 1 | 3 | 5 | 4 | 3 | 5 | 5 | 5 | 4 | 3 | 1 | 1 | 1 | 1 | 2 | 5 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 5 | 8 | 8 | 6 | 4 | 4 | 7 | 6 | 3 | 1 | 1 | 1 | 1 | 1 | 6 |
| 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 5 | 3 | 2 | 4 | 7 | 7 | 4 | 4 | 1 | 1 | 1 | 1 | 1 | 3 |
| 13 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 4 | 6 | 8 | 3 | 5 | 6 | 8 | 9 | 7 | 6 | 4 | 1 | 1 | 1 | 1 | 1 | 3 | 8 |
| 14 | 1 | 5 | 5 | 2 | 6 | 4 | 0 | 4 | 4 | 6 | 8 | 6 | 8 | 5 | 9 | 7 | 3 | 2 | 4 | 4 | 6 | 4 | 1 | 2 | 3 | 9 |
| 15 | 1 | 2 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 2 | 4 | 6 | 8 | 4 | 6 | 5 | 7 | 7 | 4 | 3 | 2 | 1 | 0 | 3 | 7 | 9 |
| 16 | 0 | 2 | 3 | 2 | 1 | 0 | 3 | 2 | 1 | 3 | 4 | 8 | 7 | 5 | 6 | 5 | 7 | 7 | 8 | 9 | 6 | 5 | 2 | 2 | 4 | 9 |
| 17 | 2 | 2 | 2 | 2 | 3 | 4 | 6 | 6 | 6 | 6 | 9 | 12 | 10 | 8 | 8 | 8 | 9 | 7 | 6 | 4 | 8 | 8 | 4 | 6 | 12 | 13 |
| 18 | 2 | 7 | 3 | 5 | 4 | 8 | 8 | 9 | 9 | 13 | 13 | 13 | 9 | 9 | 8 | 5 | 10 | 10 | 13 | 12 | 12 | 11 | 10 | 6 | 8 | 13 |
| 19 | 9 | 11 | 12 | 13 | 13 | 13 | 13 | 14 | 14 | 13 | 12 | 13 | 8 | 11 | 12 | 12 | 14 | 10 | 8 | 6 | 6 | 6 | 5 | 5 | 11 | 14 |
| 20 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 1 | 1 | 1 | 4 | 4 | 4 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 4 | 2 | 0 | (CM) | 3 | 4 |
| 21 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 4 | 5 | 4 | 6 | 6 | 8 | 8 | 1 | 0 | 0 | 1 | 8 |
| 22 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 4 | 5 | 3 | 3 | 7 | 7 | 8 | 2 | 6 | 6 | 3 | 8 | 9 |
| 23 | 1 | 1 | 6 | 4 | 2 | 2 | 4 | 9 | (CM) | 9 | 8 | 2 | 3 | 5 | 2 | 3 | 3 | 5 | 5 | 4 | 2 | 4 | 2 | 3 | 4 | 9 |
| 24 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 1 | 0 | 2 | 5 | 5 | 4 | 4 | 6 | 3 | 4 | 4 | 2 | 1 | 0 | 3 | 5 | 5 |
| 25 | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 3 | 2 | 2 | 2 | 7 | 7 | 6 | 1 | 2 | 4 | 5 | 4 | 2 | 6 | 1 | 1 | 0 | 2 | 4 |
| 26 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 3 | 8 | 8 | 10 | 10 | 10 | 12 | 11 | 10 | 8 | 7 | 6 | 6 | 6 | 7 | 11 | 8 | 4 | 11 |
| 27 | 8 | 6 | 7 | 8 | 4 | 10 | 8 | 8 | 8 | 9 | 9 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 3 | 4 | 4 | 4 | 4 | 5 | 7 | 12 |
| 28 | 5 | 5 | 5 | 5 | 4 | 6 | 6 | 6 | 5 | 8 | 6 | 5 | 6 | 8 | 9 | 6 | 8 | 9 | 7 | 7 | 7 | 8 | 7 | 5 | 6 | 8 |
| 29 | 7 | 7 | 7 | 8 | 7 | 8 | 4 | 1 | 3 | 6 | 6 | 5 | 6 | 8 | 9 | 6 | 8 | 9 | 7 | 7 | 6 | 5 | 4 | 4 | 6 | 9 |
| 30 | 4 | 4 | 2 | 4 | 6 | 4 | 4 | 4 | 10 | 8 | 6 | 4 | 4 | 6 | 7 | 4 | 5 | 6 | 8 | 6 | 10 | 10 | 13 | 9 | 6 | 13 |
| AV | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 4 | 4 | 4 | 4 | 4 |
| PK | 9 | 11 | 12 | 13 | 13 | 13 | 13 | 14 | 14 | 13 | 12 | 13 | 13 | 12 | 11 | 12 | 14 | 10 | 13 | 12 | 12 | 12 | 13 | 9 | 9 | 14 |

WIND DIRECTION # 10M
DEGREES

CB-TRACT
TRAILER AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|------|------|------|------|------|------|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|
| 1 | 208 | 180 | 135 | 135 | 151 | 197 | 144 | 141 | 76 | 338 | 236 | 243 | 226 | 232 | 236 | 247 | 197 | 225 | 188 | 186 | 193 | 250 | 284 | 248 | 204 |
| 2 | 148 | 133 | 116 | 186 | 104 | 87 | 95 | 123 | 232 | 208 | 212 | 220 | 228 | 223 | 226 | 242 | 241 | 254 | 335 | 17 | 96 | 225 | 243 | 204 | 188 |
| 3 | 180 | 258 | 139 | 135 | 210 | 109 | 298 | 275 | 289 | 316 | 334 | 321 | 278 | 221 | 225 | 233 | 230 | 243 | 220 | 207 | 314 | 314 | 341 | 19 | 259 |
| 4 | 275 | 216 | 159 | 177 | 147 | 178 | 199 | 115 | 16 | 322 | 335 | 320 | 314 | 323 | 320 | 315 | 175 | 73 | 166 | 204 | 0 | 247 | 225 | 223 | 228 |
| 5 | 219 | 202 | 158 | 179 | 111 | 205 | 171 | 202 | 243 | 250 | 289 | 287 | 282 | 282 | 288 | 241 | 229 | 228 | 219 | 249 | 232 | 152 | 214 | 217 | 225 |
| 6 | 215 | 97 | 190 | 211 | 158 | 180 | 143 | 73 | 61 | 357 | 354 | 13 | 341 | 325 | 321 | 321 | 316 | 221 | 229 | 241 | 153 | 187 | 213 | 144 | 209 |
| 7 | 126 | 171 | 118 | 115 | 177 | 125 | 143 | 109 | 61 | 182 | 173 | 188 | 225 | 212 | 204 | 207 | 196 | 230 | 231 | 218 | 196 | 183 | 168 | 156 | 174 |
| 8 | 170 | 180 | 180 | 205 | 68 | 63 | 68 | 65 | 208 | 213 | 209 | 211 | 209 | 209 | 216 | 220 | 212 | 206 | 201 | 183 | 182 | 181 | 158 | 118 | 183 |
| 9 | 136 | 88 | 109 | 149 | 155 | 193 | 90 | 107 | 197 | 207 | 212 | 227 | 226 | 230 | 225 | 222 | 241 | 229 | 213 | 210 | 206 | 260 | 287 | 294 | 202 |
| 10 | 287 | 279 | 281 | 261 | 241 | 223 | 11 | 249 | 306 | 39 | 325 | 306 | 332 | 316 | 330 | 313 | 317 | 344 | 17 | 230 | 217 | 213 | 71 | 267 | 297 |
| 11 | 174 | 202 | 215 | 139 | 207 | 279 | 109 | 94 | 92 | 352 | 310 | 303 | 288 | 297 | 305 | 309 | 312 | 305 | 307 | 290 | 202 | 236 | 189 | 159 | 258 |
| 12 | 180 | 225 | 230 | 101 | 259 | 190 | 130 | 63 | 77 | 51 | 358 | 325 | 341 | 315 | 307 | 307 | 312 | 317 | 292 | 218 | 215 | 211 | 220 | 4 | 281 |
| 13 | 215 | 222 | 95 | 215 | (CM) | 191 | (CM) | 66 | 19 | 12 | 13 | 325 | 332 | 315 | 299 | 294 | 284 | 296 | 294 | 213 | 169 | 238 | (CM) | 143 | 280 |
| 14 | 251 | 162 | 169 | 129 | 191 | 267 | 281 | 167 | 201 | 215 | 219 | 278 | 246 | 256 | 270 | 301 | 25 | 195 | 195 | 122 | 135 | 164 | 109 | 180 | 204 |
| 15 | 234 | 204 | 127 | 210 | 67 | 224 | 99 | 348 | 27 | 323 | 307 | 309 | 330 | 300 | 313 | 298 | 294 | 288 | 289 | 220 | 190 | 341 | 212 | 256 | 282 |
| 16 | 151 | 189 | 163 | 215 | 225 | (CM) | 202 | 161 | 210 | 297 | 298 | 276 | 294 | 280 | 278 | 243 | 225 | 217 | 198 | 198 | 219 | 209 | 39 | 236 | 226 |
| 17 | (CM) | 76 | 135 | 119 | 39 | 215 | 202 | 204 | 212 | 233 | 292 | 293 | 295 | 281 | 270 | 253 | 287 | 307 | 296 | 218 | 208 | 204 | 135 | 236 | 211 |
| 18 | 205 | 209 | 199 | 183 | 211 | 205 | 205 | 206 | 206 | 209 | 226 | 240 | 236 | 234 | 235 | 235 | 215 | 225 | 216 | 218 | 213 | 197 | 205 | 205 | 211 |
| 19 | 185 | 207 | 211 | 211 | 207 | 200 | 203 | 212 | 217 | 219 | 227 | 228 | 241 | 255 | 307 | 307 | 317 | 333 | 2 | 355 | 14 | 32 | 32 | 34 | 254 |
| 20 | 9 | 277 | 259 | 277 | 285 | 250 | 232 | 281 | 298 | 322 | 325 | 310 | 292 | 356 | 365 | 319 | 316 | 340 | 359 | 134 | 153 | 212 | 224 | 208 | 292 |
| 21 | (CM) | 212 | (CM) | 207 | 346 | 56 | 232 | 186 | 63 | 32 | 203 | 205 | 311 | 335 | 329 | 363 | 241 | 215 | 207 | 211 | 57 | 98 | 134 | 161 | 217 |
| 22 | 204 | 192 | 216 | 263 | 225 | 287 | 119 | 84 | 70 | 15 | 350 | 329 | 315 | 329 | 384 | 386 | 258 | 211 | 206 | 208 | 205 | 207 | 207 | 60 | 249 |
| 23 | 121 | 344 | 123 | 149 | 156 | 172 | 145 | 39 | 45 | 335 | (CM) | 212 | 225 | 209 | 213 | 153 | 202 | 183 | 138 | 197 | 136 | 147 | 156 | 221 | 183 |
| 24 | 155 | 133 | 123 | 170 | 30 | 200 | 206 | 206 | 210 | 21 | 227 | 159 | 59 | 308 | 105 | 282 | 289 | 261 | 224 | 224 | 216 | 248 | 240 | 68 | 269 |
| 25 | 209 | 205 | 197 | (CM) | 229 | 315 | 225 | 257 | 294 | 326 | 331 | 327 | 347 | 333 | 297 | 285 | 286 | 282 | 249 | 224 | 216 | 248 | 240 | 68 | 269 |
| 26 | (CM) | (CM) | 226 | 189 | 221 | 191 | 145 | 101 | 70 | 56 | 216 | 208 | 214 | 225 | 233 | 211 | 185 | 190 | 183 | 169 | 170 | 217 | 197 | 203 | 192 |
| 27 | 185 | 171 | 185 | 176 | 149 | 181 | 184 | 185 | 198 | 197 | 210 | 218 | 224 | 224 | 227 | 227 | 236 | 238 | 192 | 182 | 192 | 200 | 204 | 204 | 199 |
| 28 | 206 | 170 | 189 | 202 | 219 | 199 | 197 | 186 | 192 | 196 | 208 | 205 | 183 | 206 | 202 | 220 | 215 | 205 | 188 | 196 | 175 | 166 | 168 | 148 | 194 |
| 29 | 177 | 191 | 172 | 172 | 171 | 164 | 138 | 261 | 232 | 195 | 227 | 212 | 219 | 217 | 212 | 212 | 212 | 195 | 211 | 187 | 153 | 138 | 148 | 149 | 190 |
| 30 | 127 | 99 | 111 | 117 | 92 | 100 | 159 | 218 | 203 | 204 | 197 | 205 | 251 | 215 | 208 | 199 | 144 | 167 | 174 | 171 | 180 | 170 | 175 | 188 | 171 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| PV | 184 | 188 | 172 | 175 | 177 | 193 | 166 | 155 | 200 | 279 | 264 | 260 | 272 | 268 | 266 | 255 | 252 | 241 | 226 | 202 | 182 | 201 | 193 | 181 | 223 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

WIND DIRECTION # 30M
DEGREES

CB-TRACT
TRAILER AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|-----|-----|------|------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|
| 1 | 199 | 185 | 158 | 166 | 170 | 195 | 139 | 140 | 76 | 336 | 229 | 239 | 221 | 226 | 231 | 242 | 193 | 221 | 182 | 179 | 185 | 228 | 279 | 243 | 202 |
| 2 | 141 | 141 | 125 | 101 | 129 | 131 | 317 | 161 | 211 | 202 | 208 | 216 | 224 | 217 | 222 | 229 | 236 | 248 | 330 | 13 | 86 | 235 | 271 | 223 | 196 |
| 3 | 140 | 290 | 105 | 139 | 109 | 78 | 311 | 277 | 285 | 310 | 331 | 318 | 269 | 215 | 221 | 229 | 232 | 229 | 219 | 202 | 310 | 312 | 338 | 271 | 271 |
| 4 | 270 | 208 | 155 | 164 | 143 | 174 | 197 | 125 | 13 | 319 | 332 | 318 | 312 | 315 | 315 | 111 | 73 | 71 | 152 | 170 | 0 | 278 | 242 | 237 | 230 |
| 5 | 231 | 207 | 131 | 154 | 174 | 193 | 192 | 200 | 241 | 249 | 285 | 283 | 277 | 278 | 284 | 240 | 287 | 223 | 216 | 242 | 242 | 156 | 217 | 232 | 225 |
| 6 | 220 | 97 | 150 | 331 | 24 | 338 | (CM) | 92 | 63 | 172 | 359 | 0 | 335 | 320 | 317 | 317 | 309 | 244 | 210 | 239 | 137 | 165 | 201 | 163 | 322 |
| 7 | 118 | 125 | 119 | 118 | 156 | 115 | 132 | 107 | 63 | 173 | 170 | 182 | 219 | 208 | 198 | 0 | 191 | 265 | 227 | 213 | 191 | 176 | 160 | 151 | 166 |
| 8 | 163 | 173 | 173 | 207 | 117 | 141 | 81 | 69 | 205 | 209 | 206 | 207 | 204 | 203 | 212 | 216 | 206 | 202 | 195 | 174 | 172 | 174 | 155 | 123 | 179 |
| 9 | 127 | 92 | 100 | 150 | 146 | 164 | 153 | 153 | 192 | 203 | 208 | 224 | 222 | 226 | 221 | 217 | 236 | 226 | 212 | 209 | 208 | 256 | 289 | 302 | 199 |
| 10 | 303 | 288 | 313 | 282 | 269 | 233 | 5 | 265 | 306 | 42 | 323 | 305 | 328 | 311 | 324 | 309 | 314 | 340 | 12 | 258 | 247 | 210 | (CM) | 305 | 303 |
| 11 | 178 | 213 | 205 | 100 | 135 | 289 | (CM) | 104 | 82 | 347 | 302 | 298 | 282 | 291 | 300 | 305 | 309 | 300 | 302 | 331 | 174 | 251 | 235 | 117 | 273 |
| 12 | 104 | 122 | 267 | 156 | 338 | 239 | 130 | 81 | 74 | 56 | 0 | 323 | 341 | 313 | 303 | 304 | 308 | 312 | 291 | 237 | 236 | 219 | 229 | 319 | 300 |
| 13 | 246 | 238 | 37 | (CM) | 222 | 349 | 21 | 55 | 9 | 6 | 322 | 326 | 310 | 295 | 288 | 280 | 282 | 297 | 233 | 177 | 264 | 261 | 131 | 304 | 304 |
| 14 | 273 | 151 | 159 | 176 | 191 | 249 | 283 | 156 | 193 | 211 | 216 | 274 | 243 | 251 | 264 | 295 | 21 | 184 | 187 | 116 | 123 | 161 | 141 | 207 | 203 |
| 15 | 259 | 200 | 119 | 186 | (CM) | 220 | 180 | 344 | 24 | 315 | 301 | 303 | 324 | 295 | 307 | 294 | 289 | 284 | 294 | 229 | 208 | 28 | 210 | 270 | 275 |
| 16 | 113 | 142 | 139 | 169 | 197 | 328 | 191 | 219 | 205 | 291 | 292 | 272 | 290 | 276 | 273 | 240 | 221 | 212 | 194 | 191 | 215 | 208 | (CM) | 212 | 221 |
| 17 | 215 | 185 | 180 | 152 | 239 | 213 | 199 | 201 | 209 | 230 | 286 | 287 | 291 | 277 | 266 | 252 | 285 | 305 | 297 | 231 | 210 | 198 | 202 | 188 | 232 |
| 18 | 138 | 201 | 211 | 207 | 197 | 208 | 204 | 201 | 201 | 201 | 203 | 222 | 236 | 232 | 229 | 234 | 210 | 220 | 212 | 213 | 209 | 193 | 200 | 199 | 208 |
| 19 | 181 | 204 | 208 | 205 | 201 | 196 | 198 | 207 | 212 | 215 | 224 | 223 | 239 | 252 | 304 | 305 | 314 | 328 | 358 | 352 | 11 | 28 | 29 | 29 | 250 |
| 20 | 5 | 287 | 267 | 282 | 297 | 271 | 239 | 281 | 290 | 352 | 323 | 307 | 291 | 354 | 341 | 316 | 312 | 336 | 358 | 101 | 132 | 173 | 258 | 210 | 300 |
| 21 | 251 | 207 | (CM) | 222 | 343 | 25 | 240 | 173 | 59 | 322 | 199 | 204 | 307 | 331 | 320 | 257 | 226 | 208 | 202 | 198 | 185 | 98 | 114 | 145 | 223 |
| 22 | 197 | 135 | 196 | 302 | 299 | 297 | 166 | 102 | 69 | 20 | 349 | 325 | 311 | 321 | 301 | 331 | 254 | 205 | 202 | 205 | 202 | 207 | 200 | 58 | 254 |
| 23 | 113 | 309 | 232 | 194 | 270 | 214 | 203 | 201 | 207 | 214 | 222 | 166 | 54 | 304 | 106 | 154 | 197 | 178 | 146 | 102 | 117 | 146 | 104 | 75 | 173 |
| 24 | 152 | 130 | 115 | 141 | 156 | 175 | 178 | 32 | 37 | 341 | 180 | 207 | 220 | 207 | 209 | 236 | 242 | 256 | 231 | 206 | 126 | 129 | 143 | 236 | 183 |
| 25 | 150 | 168 | 225 | 84 | 267 | 345 | 247 | 265 | 284 | 326 | 333 | 323 | 344 | 328 | 295 | 281 | 268 | 284 | 172 | 153 | 235 | 203 | 310 | 0 | 285 |
| 26 | 0 | 337 | 274 | 39 | 243 | 169 | 129 | 100 | 76 | 63 | 211 | 203 | 209 | 219 | 229 | 208 | 190 | 184 | 172 | 153 | 151 | 211 | 194 | 195 | 186 |
| 27 | 178 | 166 | 181 | 170 | 151 | 175 | 179 | 180 | 193 | 193 | 205 | 213 | 220 | 219 | 222 | 222 | 231 | 233 | 205 | 179 | 179 | 184 | 166 | 201 | 194 |
| 28 | 193 | 158 | 162 | 178 | 168 | 180 | 180 | 177 | 184 | 191 | 204 | 201 | 178 | 201 | 197 | 216 | 217 | 199 | 181 | 185 | 170 | 163 | 160 | 145 | 184 |
| 29 | 176 | 187 | 163 | 161 | 161 | 155 | 139 | 241 | 225 | 190 | 222 | 209 | 215 | 211 | 212 | 207 | 207 | 169 | 205 | 182 | 150 | 133 | 137 | 142 | 184 |
| 30 | 120 | 100 | 100 | 108 | 86 | 92 | 151 | 212 | 201 | 201 | 193 | 199 | 248 | 211 | 203 | 193 | 138 | 161 | 166 | 166 | 174 | 163 | 169 | 184 | 166 |
| PV | 179 | 178 | 167 | 165 | 186 | 203 | 178 | 166 | 189 | 274 | 256 | 256 | 267 | 263 | 261 | 251 | 248 | 236 | 223 | 202 | 182 | 193 | 204 | 192 | 227 |

WIND DIRECTION ■ 60M
DEGREES

CB-TRACT
TRAILER A223
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 1 | 203 | 191 | 175 | 164 | 165 | 196 | 139 | 144 | 93 | 335 | 225 | 238 | 220 | 224 | 231 | 239 | 193 | 221 | 183 | 179 | 180 | 214 | 280 | 245 | 201 |
| 2 | 142 | 155 | 151 | 169 | 151 | 208 | 197 | 182 | 202 | 207 | 207 | 216 | 224 | 217 | 221 | 229 | 235 | 248 | 333 | 13 | 83 | 17 | 297 | 302 | 207 |
| 3 | 145 | 270 | 151 | 102 | 185 | 133 | 307 | 290 | 285 | 313 | 333 | 319 | 269 | 215 | 220 | 228 | 233 | 229 | 254 | 208 | 309 | 317 | 341 | 24 | 251 |
| 4 | 279 | 207 | 156 | 158 | 143 | 179 | 200 | 163 | 7 | 320 | 332 | 322 | 319 | 309 | 316 | 104 | 71 | 65 | 147 | 164 | 191 | 268 | 257 | 257 | 223 |
| 5 | 255 | 232 | 125 | 138 | 246 | 202 | 192 | 201 | 241 | 251 | 287 | 284 | 278 | 280 | 284 | 241 | 226 | 223 | 217 | 240 | 262 | 194 | 239 | 258 | 276 |
| 6 | 242 | 90 | 139 | 273 | 315 | 315 | 170 | 117 | 67 | 6 | 349 | 8 | 333 | 321 | 317 | 319 | 311 | 210 | 202 | 255 | 141 | 140 | 178 | 180 | 216 |
| 7 | 122 | 140 | 118 | 124 | 157 | 119 | 127 | 119 | 79 | 172 | 172 | 184 | 217 | 207 | 197 | 199 | 191 | 225 | 228 | 213 | 190 | 174 | 161 | 154 | 167 |
| 8 | 165 | 175 | 174 | 213 | 196 | 199 | 135 | 85 | 202 | 208 | 204 | 207 | 203 | 201 | 212 | 215 | 205 | 199 | 193 | 176 | 173 | 173 | 162 | 137 | 186 |
| 9 | 137 | 113 | 111 | 166 | 156 | 164 | 181 | 169 | 190 | 201 | 207 | 223 | 221 | 224 | 221 | 215 | 236 | 225 | 215 | 213 | 214 | 258 | 294 | 317 | 202 |
| 10 | 329 | 307 | 350 | 306 | 296 | 265 | 301 | 252 | 301 | 41 | 323 | 307 | 329 | 312 | 327 | 310 | 315 | 340 | 11 | 311 | 317 | 258 | 221 | 305 | 311 |
| 11 | 213 | 244 | 220 | 176 | 143 | 166 | 161 | 150 | 82 | 350 | 300 | 300 | 283 | 291 | 301 | 307 | 310 | 300 | 305 | 339 | 215 | 270 | 284 | 92 | 265 |
| 12 | 94 | 127 | 319 | 248 | 299 | 267 | 225 | 196 | 86 | 55 | 3 | 325 | 342 | 312 | 305 | 305 | 310 | 313 | 296 | 277 | 249 | 249 | 266 | 292 | 299 |
| 13 | 265 | 264 | 256 | 293 | 311 | 243 | 60 | 40 | 8 | 8 | 4 | 322 | 326 | 312 | 295 | 290 | 283 | 294 | 304 | 277 | 199 | 234 | 272 | 115 | 299 |
| 14 | 305 | 145 | 161 | 196 | 194 | 241 | 297 | 147 | 191 | 210 | 217 | 275 | 245 | 251 | 265 | 297 | 24 | 180 | 186 | 117 | 120 | 163 | 199 | 230 | 209 |
| 15 | 273 | 216 | 169 | 141 | 163 | 176 | 200 | 239 | 32 | 314 | 300 | 325 | 298 | 308 | 295 | 291 | 286 | 302 | 259 | 229 | 47 | 85 | 276 | 207 | 271 |
| 16 | 4 | 123 | 122 | 139 | 145 | 217 | 188 | 231 | 204 | 290 | 293 | 274 | 291 | 278 | 275 | 240 | 221 | 211 | 197 | 194 | 217 | 224 | 205 | 221 | 222 |
| 17 | 204 | 201 | 212 | 188 | 231 | 215 | 205 | 203 | 209 | 231 | 285 | 286 | 289 | 277 | 266 | 253 | 245 | 304 | 299 | 251 | 219 | 208 | 210 | 202 | 238 |
| 18 | 194 | 205 | 212 | 211 | 208 | 208 | 205 | 201 | 198 | 203 | 223 | 236 | 232 | 230 | 235 | 209 | 219 | 211 | 213 | 209 | 193 | 201 | 197 | 210 | 210 |
| 19 | 185 | 205 | 208 | 204 | 201 | 197 | 198 | 207 | 211 | 214 | 224 | 223 | 240 | 252 | 302 | 304 | 312 | 324 | 1 | 353 | 14 | 32 | 33 | 32 | 248 |
| 20 | 8 | 304 | 282 | 292 | 309 | 291 | 266 | 272 | 281 | 356 | 319 | 363 | 294 | 343 | 341 | 315 | 316 | 339 | 358 | 84 | 122 | 146 | 326 | (CM) | 317 |
| 21 | 240 | 199 | 166 | 8 | 302 | 265 | 66 | 217 | 68 | 322 | 200 | 207 | 310 | 331 | 321 | 260 | 225 | 208 | 208 | 203 | 205 | 156 | 174 | 180 | 225 |
| 22 | 210 | 177 | 195 | 264 | 332 | 293 | 230 | 132 | 77 | 26 | 353 | 329 | 313 | 320 | 303 | 333 | 253 | 205 | 207 | 210 | 207 | 213 | 207 | 135 | 247 |
| 23 | 119 | 293 | 245 | 210 | 244 | 214 | 204 | 199 | 208 | 213 | 221 | 180 | 58 | 307 | 105 | 161 | 195 | 179 | 161 | 131 | 141 | 172 | 142 | 89 | 183 |
| 24 | 160 | 140 | 121 | 149 | 170 | 183 | 189 | 318 | (CM) | 357 | 194 | 211 | 219 | 205 | 207 | 236 | 278 | 255 | 237 | 215 | 145 | 125 | 162 | 207 | 194 |
| 25 | 114 | 148 | 249 | 248 | 215 | 333 | 347 | 286 | 287 | 328 | 344 | 325 | 348 | 328 | 200 | 284 | 287 | 183 | 169 | 147 | 144 | 208 | 195 | 193 | 181 |
| 26 | 325 | 37 | 150 | 297 | 315 | 173 | 135 | 107 | 101 | 79 | 210 | 201 | 209 | 218 | 221 | 222 | 229 | 233 | 216 | 189 | 183 | 185 | 186 | 210 | 196 |
| 27 | 178 | 170 | 188 | 171 | 161 | 175 | 179 | 180 | 191 | 192 | 204 | 212 | 219 | 219 | 221 | 222 | 229 | 233 | 210 | 181 | 172 | 165 | 163 | 155 | 182 |
| 28 | 196 | 159 | 169 | 172 | 180 | 173 | 173 | 173 | 183 | 189 | 204 | 202 | 179 | 199 | 196 | 211 | 209 | 196 | 180 | 181 | 172 | 165 | 163 | 155 | 182 |
| 29 | 181 | 189 | 165 | 161 | 157 | 155 | 150 | 222 | 224 | 189 | 220 | 208 | 213 | 207 | 211 | 206 | 204 | 188 | 204 | 181 | 156 | 140 | 140 | 148 | 184 |
| 30 | 131 | 114 | 100 | 112 | 94 | 98 | 156 | 207 | 201 | 201 | 192 | 200 | 249 | 212 | 202 | 193 | 142 | 163 | 166 | 174 | 162 | 171 | 186 | 168 | 168 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| PV | 194 | 182 | 172 | 190 | 202 | 202 | 187 | 189 | 186 | 273 | 255 | 257 | 268 | 263 | 262 | 251 | 248 | 236 | 226 | 211 | 191 | 197 | 213 | 200 | 228 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

WIND DIRECTION AND
VECTOR AVERAGE VELOCITY (DEG & MPS)
10 METER LEVEL

CB-TRACT
TRAILER AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | VECTOR | | |
|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | DIR | VEL | |
| 1 | 208 | 180 | 135 | 135 | 151 | 197 | 144 | 141 | 76 | 338 | 236 | 243 | 226 | 232 | 236 | 247 | 197 | 225 | 188 | 186 | 193 | 250 | 284 | 248 | 241 | 221 | 1-7 |
| 2 | 148 | 133 | 116 | 86 | 104 | 87 | 95 | 123 | 232 | 208 | 212 | 220 | 228 | 223 | 226 | 232 | 241 | 254 | 335 | 17 | 96 | 225 | 243 | 204 | 215 | 1-8 | |
| 3 | 180 | 258 | 139 | 135 | 210 | 109 | 298 | 275 | 289 | 316 | 334 | 321 | 278 | 321 | 225 | 233 | 236 | 233 | 230 | 207 | 314 | 314 | 341 | 19 | 260 | 1-8 | |
| 4 | 275 | 216 | 159 | 177 | 147 | 178 | 199 | 115 | 16 | 322 | 335 | 320 | 314 | 323 | 320 | 115 | 73 | 73 | 166 | 204 | 0 | 247 | 225 | 223 | 220 | 0-3 | |
| 5 | 202 | 158 | 179 | 111 | 205 | 171 | 202 | 243 | 250 | 289 | 287 | 282 | 282 | 281 | 282 | 288 | 241 | 229 | 228 | 219 | 249 | 232 | 152 | 214 | 217 | 246 | 2-3 |
| 6 | 215 | 97 | 190 | 211 | 158 | 180 | 143 | 73 | 61 | 357 | 354 | 13 | 341 | 325 | 321 | 321 | 321 | 229 | 221 | 229 | 221 | 153 | 187 | 213 | 144 | 268 | 0-4 |
| 7 | 126 | 171 | 118 | 115 | 177 | 125 | 143 | 109 | 61 | 182 | 173 | 188 | 225 | 212 | 204 | 207 | 196 | 230 | 231 | 188 | 196 | 183 | 168 | 156 | 192 | 3-2 | |
| 8 | 170 | 180 | 180 | 205 | 68 | 63 | 68 | 65 | 208 | 213 | 209 | 211 | 209 | 209 | 216 | 220 | 212 | 206 | 201 | 183 | 182 | 181 | 158 | 118 | 196 | 3-1 | |
| 9 | 136 | 88 | 109 | 149 | 155 | 193 | 90 | 107 | 197 | 207 | 212 | 227 | 226 | 330 | 325 | 322 | 341 | 229 | 219 | 230 | 210 | 206 | 260 | 287 | 294 | 216 | 2-5 |
| 10 | 287 | 279 | 281 | 261 | 241 | 223 | 11 | 249 | 306 | 329 | 325 | 306 | 332 | 316 | 330 | 313 | 317 | 344 | 17 | 230 | 217 | 213 | 71 | 267 | 301 | 1-2 | |
| 11 | 174 | 202 | 215 | 139 | 207 | 279 | 109 | 94 | 92 | 352 | 310 | 303 | 288 | 297 | 305 | 309 | 313 | 305 | 307 | 290 | 202 | 236 | 189 | 159 | 291 | 1-2 | |
| 12 | 180 | 225 | 230 | 101 | 259 | 190 | 130 | 63 | 77 | 51 | 358 | 325 | 341 | 315 | 307 | 307 | 312 | 284 | 296 | 294 | 213 | 169 | 238 | 109 | 180 | 226 | 1-4 |
| 13 | 215 | 222 | 195 | 215 | 188 | 191 | 188 | 166 | 19 | 12 | 13 | 325 | 332 | 315 | 299 | 294 | 284 | 296 | 294 | 213 | 169 | 238 | 109 | 180 | 226 | 1-4 | |
| 14 | 234 | 204 | 127 | 120 | 67 | 224 | 99 | 348 | 27 | 323 | 307 | 309 | 330 | 300 | 313 | 298 | 294 | 268 | 289 | 220 | 190 | 341 | 212 | 256 | 291 | 1-4 | |
| 15 | 234 | 204 | 127 | 120 | 67 | 224 | 99 | 348 | 27 | 323 | 307 | 309 | 330 | 300 | 313 | 298 | 294 | 268 | 289 | 220 | 190 | 341 | 212 | 256 | 291 | 1-4 | |
| 16 | 151 | 189 | 163 | 215 | 225 | *** | 202 | 161 | 210 | 297 | 298 | 276 | 294 | 280 | 278 | 243 | 225 | 217 | 198 | 198 | 219 | 209 | 39 | 236 | 244 | 1-9 | |
| 17 | *** | 76 | 135 | 119 | 39 | 215 | 202 | 204 | 212 | 233 | 292 | 293 | 295 | 281 | 270 | 253 | 287 | 307 | 296 | 218 | 208 | 204 | 204 | 135 | 262 | 2-5 | |
| 18 | 205 | 209 | 199 | 183 | 211 | 205 | 205 | 205 | 206 | 206 | 209 | 226 | 240 | 236 | 234 | 235 | 215 | 225 | 216 | 218 | 213 | 197 | 205 | 205 | 215 | 4-6 | |
| 19 | 185 | 207 | 211 | 211 | 207 | 200 | 203 | 212 | 217 | 219 | 227 | 228 | 241 | 255 | 307 | 307 | 317 | 333 | 2 | 355 | 14 | 32 | 32 | 34 | 245 | 3-3 | |
| 20 | 9 | 217 | 259 | 277 | 285 | 250 | 222 | 281 | 298 | 352 | 325 | 310 | 292 | 356 | 345 | 319 | 316 | 340 | 359 | 134 | 153 | 212 | 224 | 208 | 290 | 1-0 | |
| 21 | *** | 212 | *** | 207 | 346 | 56 | 232 | 146 | 63 | 327 | 203 | 205 | 311 | 335 | 323 | 263 | 231 | 215 | 207 | 211 | 57 | 98 | 134 | 161 | 227 | 0-7 | |
| 22 | 204 | 192 | 216 | 263 | 225 | 287 | 119 | 84 | 70 | 15 | 350 | 329 | 315 | 329 | 304 | 336 | 258 | 211 | 206 | 208 | 205 | 207 | 207 | 66 | 247 | 0-8 | |
| 23 | 121 | 344 | 227 | 170 | 30 | 200 | 206 | 206 | 210 | 218 | 227 | 159 | 59 | 308 | 105 | 153 | 202 | 183 | 138 | 92 | 104 | 114 | 85 | 69 | 188 | 1-3 | |
| 24 | 155 | 133 | 123 | 149 | 156 | 172 | 145 | 39 | 45 | 335 | *** | 212 | 225 | 209 | 213 | 242 | 289 | 261 | 225 | 197 | 136 | 147 | 156 | 221 | 186 | 1-3 | |
| 25 | 209 | 205 | 197 | *** | 229 | 315 | 225 | 257 | 284 | 326 | 331 | 327 | 347 | 333 | 297 | 285 | 286 | 282 | 249 | 224 | 216 | 248 | 240 | 68 | 276 | 0-8 | |
| 26 | *** | *** | 226 | 189 | 221 | 191 | 145 | 101 | 70 | 56 | 216 | 208 | 214 | 225 | 233 | 211 | 185 | 190 | 183 | 169 | 170 | 217 | 197 | 203 | 198 | 2-6 | |
| 27 | 185 | 171 | 185 | 176 | 149 | 181 | 184 | 185 | 198 | 197 | 210 | 218 | 224 | 224 | 224 | 227 | 236 | 238 | 192 | 182 | 192 | 200 | 204 | 205 | 4-2 | | |
| 28 | 206 | 170 | 189 | 202 | 219 | 199 | 197 | 186 | 192 | 196 | 208 | 205 | 183 | 206 | 202 | 220 | 215 | 205 | 168 | 196 | 175 | 166 | 168 | 148 | 194 | 3-2 | |
| 29 | 177 | 191 | 172 | 172 | 171 | 164 | 138 | 261 | 232 | 195 | 227 | 212 | 219 | 217 | 217 | 217 | 212 | 195 | 211 | 187 | 150 | 183 | 148 | 149 | 193 | 3-3 | |
| 30 | 127 | 94 | 111 | 117 | 92 | 100 | 159 | 218 | 203 | 204 | 197 | 205 | 251 | 215 | 208 | 199 | 144 | 167 | 174 | 171 | 180 | 170 | 175 | 188 | 179 | 3-0 | |
| VD | 177 | 184 | 182 | 178 | 177 | 193 | 185 | 187 | 205 | 223 | 239 | 249 | 257 | 253 | 254 | 253 | 249 | 241 | 223 | 202 | 186 | 197 | 196 | 185 | 223 | | |
| VV | 1-4 | 1-3 | 1-4 | 1-2 | 0-9 | 1-3 | 1-2 | 1-2 | 1-3 | 1-9 | 2-4 | 2-6 | 2-9 | 3-1 | 3-1 | 2-8 | 2-7 | 2-6 | 1-9 | 2-1 | 1-8 | 1-6 | 1-4 | 1-0 | 1-6 | | |

TOTAL NUMBER OF OBSERVATIONS = 709

NOTE: *** = MISSING DATA

WIND DIRECTION AND
VECTOR AVERAGE VELOCITY (DEG & MPS)
30 METER LEVEL

CB-TRACT
TRAILER A423
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | VECTOR
DIR VEL | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|-----|
| 1 | 199 | 185 | 158 | 166 | 170 | 195 | 139 | 140 | 76 | 336 | 229 | 239 | 221 | 226 | 231 | 242 | 193 | 221 | 182 | 179 | 185 | 228 | 279 | 243 | 214 | 2.5 |
| 2 | 141 | 141 | 125 | 131 | 120 | 191 | 137 | 161 | 211 | 202 | 208 | 216 | 224 | 217 | 222 | 229 | 236 | 248 | 330 | 13 | 86 | 235 | 271 | 223 | 212 | 2.7 |
| 3 | 140 | 290 | 105 | 109 | 109 | 174 | 311 | 277 | 285 | 310 | 318 | 318 | 269 | 215 | 221 | 229 | 232 | 229 | 219 | 202 | 310 | 312 | 338 | 21 | 255 | 2.4 |
| 4 | 270 | 208 | 155 | 164 | 143 | 174 | 197 | 125 | 131 | 319 | 332 | 318 | 312 | 315 | 315 | 111 | 73 | 71 | 152 | 170 | 0 | 278 | 242 | 237 | 210 | 0.5 |
| 5 | 231 | 207 | 131 | 154 | 174 | 194 | 192 | 200 | 241 | 249 | 285 | 283 | 277 | 278 | 284 | 240 | 287 | 223 | 216 | 242 | 242 | 156 | 217 | 232 | 245 | 3.2 |
| 6 | 220 | 87 | 150 | 331 | 24 | 338 | *** | 92 | 63 | 2 | 349 | 10 | 335 | 320 | 317 | 317 | 309 | 214 | 210 | 239 | 137 | 165 | 201 | 163 | 291 | 0.4 |
| 7 | 148 | 125 | 119 | 118 | 156 | 115 | 132 | 107 | 63 | 173 | 170 | 182 | 219 | 208 | 198 | 201 | 191 | 225 | 227 | 213 | 191 | 176 | 160 | 151 | 186 | 4.4 |
| 8 | 119 | 173 | 173 | 207 | 117 | 141 | 81 | 69 | 205 | 209 | 206 | 207 | 204 | 203 | 212 | 216 | 206 | 202 | 195 | 174 | 172 | 174 | 155 | 123 | 130 | 4.5 |
| 9 | 157 | 92 | 100 | 150 | 146 | 164 | 153 | 153 | 192 | 203 | 208 | 224 | 222 | 226 | 221 | 217 | 236 | 292 | 212 | 209 | 208 | 256 | 289 | 302 | 211 | 3.8 |
| 10 | 303 | 288 | 313 | 282 | 269 | 233 | 5 | 265 | 306 | 42 | 323 | 305 | 328 | 311 | 324 | 309 | 314 | 340 | 12 | 258 | 247 | 210 | *** | 305 | 307 | 1.9 |
| 11 | 178 | 213 | 205 | 100 | 135 | 289 | *** | 104 | 82 | 347 | 302 | 298 | 282 | 291 | 300 | 305 | 309 | 300 | 302 | 331 | 174 | 251 | 235 | 117 | 292 | 1.7 |
| 12 | 104 | 222 | 267 | 156 | 338 | 239 | 130 | 81 | 74 | 56 | 0 | 323 | 341 | 313 | 303 | 304 | 308 | 312 | 291 | 237 | 236 | 219 | 229 | 319 | 305 | 1.1 |
| 13 | 246 | 238 | 37 | *** | 222 | 349 | 21 | 55 | 9 | 6 | 322 | 326 | 310 | 295 | 288 | 280 | 292 | 297 | 233 | 177 | 264 | 261 | 131 | 297 | 1.9 | |
| 14 | 273 | 151 | 159 | 176 | 191 | 249 | 283 | 156 | 193 | 211 | 216 | 274 | 243 | 251 | 264 | 295 | 21 | 184 | 187 | 116 | 123 | 161 | 141 | 207 | 2.5 | |
| 15 | 259 | 200 | 119 | 186 | *** | 220 | 180 | 344 | 24 | 315 | 301 | 303 | 324 | 295 | 307 | 294 | 289 | 284 | 294 | 229 | 208 | 28 | 210 | 270 | 289 | 2.1 |
| 16 | 113 | 142 | 139 | 169 | 197 | 328 | 191 | 219 | 205 | 291 | 292 | 272 | 290 | 276 | 273 | 240 | 221 | 212 | 194 | 191 | 215 | 208 | *** | 212 | 236 | 2.8 |
| 17 | 215 | 185 | 180 | 152 | 239 | 213 | 199 | 201 | 209 | 230 | 286 | 287 | 291 | 277 | 266 | 252 | 285 | 305 | 297 | 231 | 210 | 198 | 202 | 188 | 253 | 3.8 |
| 18 | 138 | 201 | 211 | 207 | 197 | 208 | 204 | 201 | 201 | 201 | 203 | 222 | 236 | 232 | 229 | 234 | 210 | 220 | 212 | 213 | 209 | 193 | 200 | 199 | 211 | 6.7 |
| 19 | 181 | 204 | 208 | 205 | 201 | 196 | 198 | 207 | 212 | 215 | 224 | 223 | 239 | 252 | 304 | 305 | 314 | 328 | 358 | 352 | 11 | 28 | 29 | 29 | 239 | 4.8 |
| 20 | 5 | 287 | 267 | 282 | 297 | 271 | 239 | 281 | 290 | 352 | 323 | 307 | 291 | 354 | 341 | 316 | 312 | 336 | 358 | 101 | 132 | 173 | 258 | 210 | 302 | 1.3 |
| 21 | 251 | 207 | *** | 222 | 343 | 25 | 240 | 173 | 59 | 322 | 199 | 204 | 307 | 331 | 320 | 257 | 226 | 208 | 202 | 198 | 185 | 98 | 114 | 145 | 224 | 1.1 |
| 22 | 117 | 135 | 196 | 302 | 299 | 297 | 166 | 102 | 69 | 20 | 349 | 325 | 311 | 321 | 301 | 331 | 254 | 205 | 202 | 205 | 207 | 200 | 58 | 233 | 1.4 | |
| 23 | 113 | 309 | 232 | 194 | 270 | 214 | 203 | 201 | 207 | 214 | 222 | 166 | 54 | 304 | 106 | 154 | 197 | 178 | 146 | 102 | 117 | 146 | 104 | 75 | 191 | 2.2 |
| 24 | 152 | 30 | 115 | 141 | 156 | 175 | 178 | 32 | 37 | 341 | 180 | 207 | 220 | 207 | 209 | 236 | 282 | 256 | 231 | 206 | 126 | 129 | 143 | 236 | 187 | 1.6 |
| 25 | 150 | 164 | 225 | 44 | 267 | 345 | 247 | 265 | 284 | 326 | 333 | 323 | 344 | 328 | 295 | 281 | 284 | 281 | 268 | 256 | 235 | 203 | 310 | 0 | 287 | 1.0 |
| 26 | 0 | 337 | 274 | 39 | 243 | 169 | 129 | 100 | 76 | 63 | 211 | 203 | 209 | 219 | 222 | 222 | 231 | 233 | 205 | 179 | 179 | 184 | 186 | 201 | 199 | 6.1 |
| 27 | 178 | 166 | 183 | 170 | 151 | 175 | 179 | 180 | 193 | 193 | 205 | 213 | 220 | 219 | 222 | 222 | 231 | 233 | 205 | 179 | 179 | 184 | 186 | 201 | 199 | 6.1 |
| 28 | 193 | 156 | 172 | 178 | 188 | 180 | 180 | 177 | 184 | 191 | 204 | 201 | 178 | 201 | 197 | 216 | 211 | 199 | 181 | 185 | 170 | 163 | 160 | 145 | 186 | 4.9 |
| 29 | 176 | 187 | 163 | 161 | 161 | 155 | 139 | 241 | 225 | 190 | 222 | 209 | 215 | 211 | 212 | 207 | 207 | 189 | 205 | 182 | 150 | 133 | 137 | 142 | 186 | 4.8 |
| 30 | 120 | 100 | 100 | 108 | 86 | 92 | 151 | 212 | 201 | 193 | 199 | 248 | 211 | 203 | 193 | 138 | 161 | 166 | 166 | 174 | 163 | 169 | 184 | 172 | 4.3 | |
| VD | 173 | 175 | 173 | 173 | 173 | 191 | 184 | 184 | 201 | 217 | 233 | 245 | 253 | 248 | 250 | 249 | 245 | 236 | 218 | 198 | 183 | 189 | 195 | 186 | 217 | |
| VV | 1.7 | 1.8 | 1.8 | 1.8 | 1.4 | 1.8 | 2.0 | 1.9 | 2.0 | 2.6 | 3.1 | 3.6 | 3.9 | 4.4 | 4.3 | 3.8 | 3.7 | 3.6 | 2.9 | 3.1 | 2.6 | 2.3 | 2.1 | 1.4 | 2.3 | |

TOTAL NUMBER OF OBSERVATIONS = 713

NOTE: *** = MISSING DATA

HOUR * (LOCAL STANDARD TIME)

VECTOR

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | DIR | VEL |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 203 | 191 | 175 | 164 | 165 | 196 | 139 | 144 | 93 | 335 | 225 | 238 | 220 | 224 | 231 | 239 | 193 | 221 | 183 | 179 | 180 | 214 | 280 | 245 | 211 | 2.9 |
| 2 | 142 | 155 | 151 | 169 | 151 | 208 | 197 | 182 | 207 | 202 | 201 | 207 | 216 | 224 | 217 | 221 | 229 | 235 | 248 | 333 | 13 | 83 | 17 | 297 | 302 | 3.1 |
| 3 | 145 | 270 | 115 | 102 | 185 | 131 | 307 | 290 | 285 | 313 | 333 | 319 | 269 | 215 | 220 | 228 | 233 | 229 | 224 | 208 | 309 | 317 | 341 | 24 | 257 | 2.7 |
| 4 | 279 | 207 | 156 | 158 | 143 | 179 | 200 | 163 | 7 | 320 | 332 | 322 | 319 | 309 | 316 | 104 | 71 | 65 | 147 | 164 | 191 | 268 | 257 | 213 | 0.7 | |
| 5 | 255 | 232 | 125 | 138 | 246 | 202 | 192 | 201 | 241 | 251 | 287 | 284 | 278 | 280 | 284 | 241 | 226 | 223 | 217 | 240 | 262 | 194 | 239 | 258 | 247 | 3.5 |
| 6 | 242 | 90 | 139 | 273 | 315 | 315 | 170 | 117 | 67 | 6 | 349 | 8 | 333 | 321 | 317 | 199 | 311 | 210 | 202 | 255 | 141 | 140 | 178 | 180 | 288 | 0.5 |
| 7 | 122 | 140 | 118 | 124 | 157 | 119 | 127 | 119 | 79 | 172 | 172 | 184 | 217 | 207 | 197 | 199 | 191 | 225 | 228 | 213 | 190 | 174 | 161 | 154 | 186 | 5.0 |
| 8 | 165 | 174 | 213 | 196 | 199 | 135 | 185 | 202 | 208 | 204 | 207 | 203 | 201 | 212 | 214 | 205 | 199 | 193 | 176 | 173 | 173 | 162 | 137 | 190 | 5.4 | |
| 9 | 137 | 113 | 111 | 166 | 156 | 164 | 181 | 169 | 190 | 201 | 207 | 223 | 224 | 221 | 215 | 236 | 225 | 215 | 213 | 214 | 258 | 294 | 317 | 210 | 4.6 | |
| 10 | 329 | 307 | 350 | 306 | 296 | 265 | 301 | 252 | 301 | 41 | 323 | 307 | 329 | 312 | 327 | 310 | 315 | 340 | 11 | 311 | 317 | 258 | 221 | 305 | 317 | 2.1 |
| 11 | 213 | 244 | 220 | 176 | 143 | 166 | 161 | 150 | 82 | 350 | 300 | 283 | 291 | 301 | 307 | 310 | 313 | 296 | 270 | 267 | 249 | 249 | 266 | 303 | 1.5 | |
| 12 | 94 | 127 | 319 | 248 | 299 | 267 | 225 | 196 | 86 | 55 | 3 | 325 | 342 | 312 | 305 | 305 | 310 | 313 | 296 | 277 | 199 | 234 | 272 | 115 | 300 | 2.1 |
| 13 | 265 | 264 | 256 | 293 | 311 | 243 | 60 | 40 | 8 | 4 | 322 | 326 | 312 | 295 | 290 | 283 | 294 | 304 | 277 | 199 | 234 | 272 | 115 | 300 | 2.1 | |
| 14 | 305 | 145 | 161 | 196 | 194 | 241 | 297 | 147 | 191 | 210 | 217 | 275 | 245 | 251 | 265 | 297 | 24 | 180 | 186 | 117 | 120 | 163 | 199 | 230 | 2.8 | |
| 15 | 273 | 216 | 169 | 141 | 163 | 176 | 200 | 239 | 32 | 314 | 300 | 304 | 325 | 298 | 308 | 295 | 291 | 286 | 302 | 259 | 229 | 47 | 85 | 276 | 291 | 2.3 |
| 16 | 4 | 123 | 122 | 139 | 145 | 217 | 188 | 231 | 204 | 290 | 293 | 274 | 291 | 278 | 275 | 240 | 221 | 211 | 197 | 194 | 217 | 224 | 205 | 221 | 233 | 3.2 |
| 17 | 204 | 203 | 212 | 188 | 231 | 215 | 205 | 203 | 209 | 231 | 265 | 266 | 289 | 277 | 266 | 253 | 265 | 304 | 299 | 251 | 219 | 208 | 210 | 202 | 251 | 4.8 |
| 18 | 194 | 205 | 212 | 211 | 208 | 206 | 205 | 201 | 201 | 198 | 203 | 223 | 236 | 232 | 230 | 235 | 209 | 211 | 213 | 209 | 193 | 201 | 197 | 211 | 8.0 | |
| 19 | 185 | 205 | 208 | 204 | 201 | 197 | 198 | 207 | 211 | 214 | 224 | 223 | 240 | 252 | 302 | 304 | 312 | 328 | 1 | 353 | 14 | 32 | 33 | 32 | 236 | 5.6 |
| 20 | 8 | 304 | 282 | 292 | 309 | 291 | 266 | 272 | 281 | 356 | 319 | 310 | 294 | 343 | 341 | 315 | 316 | 339 | 358 | 84 | 122 | 146 | 326 | ** | 315 | 1.7 |
| 21 | 240 | 199 | 166 | 8 | 302 | 25 | 66 | 217 | 68 | 322 | 200 | 207 | 310 | 321 | 321 | 260 | 225 | 208 | 208 | 203 | 205 | 156 | 174 | 180 | 227 | 1.4 |
| 22 | 210 | 177 | 195 | 264 | 332 | 293 | 230 | 132 | 77 | 26 | 353 | 329 | 313 | 320 | 303 | 333 | 253 | 207 | 207 | 210 | 207 | 213 | 207 | 135 | 232 | 2.0 |
| 23 | 119 | 293 | 245 | 210 | 244 | 214 | 204 | 199 | 208 | 213 | 221 | 180 | 58 | 307 | 105 | 161 | 195 | 179 | 161 | 131 | 141 | 172 | 142 | 89 | 197 | 3.0 |
| 24 | 160 | 140 | 121 | 149 | 170 | 183 | 189 | 318 | ** | 357 | 194 | 211 | 219 | 205 | 207 | 236 | 278 | 255 | 237 | 215 | 145 | 125 | 163 | 207 | 195 | 2.2 |
| 25 | 114 | 148 | 249 | 248 | 215 | 333 | 347 | 286 | 287 | 328 | 344 | 325 | 348 | 329 | 300 | 284 | 287 | 285 | 281 | 287 | 272 | 240 | 278 | ** | 297 | 1.2 |
| 26 | 325 | 37 | 150 | 297 | 315 | 173 | 135 | 107 | 101 | 79 | 210 | 201 | 209 | 218 | 226 | 208 | 182 | 183 | 169 | 147 | 144 | 208 | 195 | 193 | 189 | 3.6 |
| 27 | 178 | 170 | 188 | 171 | 161 | 175 | 179 | 180 | 191 | 192 | 204 | 212 | 219 | 219 | 221 | 222 | 229 | 233 | 216 | 189 | 183 | 185 | 186 | 210 | 199 | 7.0 |
| 28 | 196 | 159 | 169 | 172 | 180 | 173 | 173 | 172 | 183 | 189 | 204 | 202 | 179 | 199 | 196 | 215 | 209 | 196 | 180 | 181 | 172 | 165 | 163 | 155 | 183 | 5.9 |
| 29 | 181 | 189 | 165 | 161 | 157 | 155 | 150 | 222 | 224 | 189 | 220 | 208 | 213 | 207 | 211 | 206 | 204 | 188 | 204 | 181 | 156 | 140 | 148 | 185 | 5.6 | |
| 30 | 131 | 114 | 100 | 112 | 94 | | 156 | 207 | 201 | 192 | 200 | 249 | 212 | 202 | 193 | 142 | 162 | 166 | 168 | 174 | 162 | 171 | 186 | 173 | 5.2 | |
| WD | 182 | 182 | 178 | 182 | 183 | 193 | 189 | 189 | 199 | 216 | 233 | 246 | 253 | 248 | 250 | 250 | 245 | 235 | 221 | 201 | 187 | 192 | 200 | 193 | 218 | |
| VV | 1.9 | 2.1 | 2.1 | 2.2 | 1.8 | 2.5 | 2.7 | 2.6 | 2.4 | 2.8 | 3.4 | 3.9 | 4.2 | 4.7 | 4.6 | 4.1 | 4.0 | 4.0 | 3.4 | 3.5 | 3.2 | 2.8 | 2.4 | 1.8 | | 2.7 |

TOTAL NUMBER OF OBSERVATIONS = 717

NOTE: **** = MISSING DATA

SIGMA HORIZ. WIND DIR. @ 10M
DEGREES

CB-TRACT
TRAILER AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|------|------|------|----|----|------|------|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|------|----|-----|------|----|
| 1 | 14 | 10 | 9 | 9 | 6 | 16 | 7 | 11 | 20 | 21 | 31 | 24 | 17 | 13 | 13 | 30 | 23 | 10 | 7 | 7 | 6 | 17 | 11 | 11 | 14 | 31 | |
| 2 | 12 | 12 | 6 | 14 | 8 | 20 | 8 | 9 | 23 | 11 | 12 | 16 | 14 | 12 | 13 | 13 | 12 | 11 | 8 | 8 | 7 | 8 | 5 | 6 | 11 | 23 | |
| 3 | 4 | 12 | 6 | 5 | 10 | 12 | 14 | 11 | 13 | 27 | 26 | 19 | 28 | 15 | 11 | 12 | 11 | 7 | 7 | 9 | 9 | 12 | 24 | 13 | 28 | | |
| 4 | 14 | 7 | 15 | 12 | 11 | 6 | 11 | 16 | 10 | 18 | 27 | 22 | 24 | 26 | 22 | 16 | 15 | 21 | 4 | 7 | 9 | 8 | 7 | 3 | 14 | 27 | |
| 5 | 5 | 5 | 6 | 7 | 21 | 5 | 23 | 15 | 13 | 17 | 13 | 14 | 15 | 14 | 16 | 14 | 11 | 10 | 6 | 11 | 4 | 9 | 3 | 3 | 11 | 23 | |
| 6 | 5 | 6 | 5 | 8 | 5 | 4 | 9 | 9 | 16 | 22 | 30 | 33 | 27 | 24 | 14 | 26 | 21 | 10 | 7 | 5 | 11 | 9 | 11 | 17 | 14 | 33 | |
| 7 | 7 | 7 | 10 | 7 | 4 | 6 | 12 | 7 | 8 | 12 | 23 | 23 | 17 | 22 | 16 | 14 | 13 | 11 | 10 | 9 | 8 | 7 | 6 | 9 | 11 | 24 | |
| 8 | 7 | 10 | 28 | 17 | 16 | 18 | 15 | 34 | 10 | 10 | 10 | 15 | 16 | 14 | 14 | 13 | 12 | 13 | 10 | 6 | 4 | 4 | 5 | 6 | 8 | 12 | 34 |
| 9 | 9 | 9 | 5 | 8 | 3 | 11 | 24 | 18 | 23 | 13 | 13 | 12 | 14 | 14 | 13 | 14 | 13 | 8 | 5 | 6 | 14 | 8 | 7 | 6 | 11 | 24 | |
| 10 | 7 | 5 | 8 | 5 | 12 | 3 | 11 | 24 | 41 | 29 | 22 | 21 | 14 | 13 | 20 | 25 | 13 | 7 | 7 | 6 | 3 | 7 | 5 | 13 | 13 | 41 | |
| 11 | 7 | 6 | 8 | 10 | 9 | 14 | 14 | 10 | 15 | 20 | 22 | 21 | 14 | 13 | 20 | 25 | 13 | 11 | 9 | 13 | 4 | 12 | 11 | 7 | 13 | 25 | |
| 12 | 15 | 10 | 4 | 10 | 10 | 4 | 0 | 9 | 27 | 32 | 37 | 30 | 28 | 34 | 27 | 21 | 13 | 9 | 7 | 7 | 3 | 11 | 13 | 9 | 15 | 37 | |
| 13 | 9 | 10 | 10 | 10 | 10 | 6 | (CM) | 10 | 32 | 17 | 30 | 30 | 17 | 18 | 15 | 12 | 12 | 11 | 6 | 4 | 15 | 16 | (CM) | 5 | 14 | 32 | |
| 14 | 15 | 9 | 10 | 20 | 13 | 14 | 14 | 14 | 11 | 14 | 10 | 11 | 11 | 13 | 13 | 17 | 13 | 8 | 10 | 5 | 17 | 16 | 10 | 12 | 20 | | |
| 15 | 4 | 2 | 10 | 8 | 9 | 5 | 18 | 11 | 18 | 21 | 23 | 16 | 25 | 19 | 15 | 16 | 12 | 9 | 6 | 3 | 12 | 10 | 4 | 13 | 12 | 25 | |
| 16 | 9 | 9 | 5 | 6 | 16 | (CM) | 11 | 13 | 21 | 19 | 18 | 15 | 16 | 17 | 15 | 17 | 13 | 9 | 5 | 5 | 13 | 14 | 21 | 11 | 13 | 21 | |
| 17 | (CM) | 12 | 11 | 12 | 23 | 28 | 7 | 9 | 10 | 16 | 14 | 10 | 13 | 14 | 13 | 13 | 11 | 9 | 8 | 5 | 6 | 6 | 5 | 19 | 12 | 28 | |
| 18 | 15 | 17 | 26 | 15 | 17 | 10 | 11 | 9 | 10 | 11 | 13 | 14 | 15 | 15 | 13 | 20 | 11 | 9 | 8 | 8 | 9 | 8 | 8 | 17 | 13 | 26 | |
| 19 | 6 | 9 | 8 | 8 | 8 | 7 | 7 | 9 | 9 | 10 | 12 | 12 | 13 | 11 | 12 | 9 | 9 | 9 | 10 | 10 | 8 | 6 | 5 | 4 | 9 | 13 | |
| 20 | 5 | 4 | 5 | 4 | 4 | 5 | 3 | 17 | 31 | 32 | 36 | 24 | 18 | 47 | 32 | 33 | 23 | 9 | 4 | 7 | 4 | 9 | 4 | 5 | 15 | 47 | |
| 21 | (CM) | 7 | (CM) | 11 | 15 | 10 | 4 | 8 | 16 | 28 | 24 | 33 | 31 | 25 | 32 | 22 | 20 | 9 | 7 | 6 | 24 | 15 | 13 | 8 | 17 | 33 | |
| 22 | 15 | 11 | 12 | 13 | 14 | 14 | 3 | 7 | 16 | 20 | 21 | 30 | 29 | 25 | 17 | 22 | 19 | 9 | 5 | 5 | 5 | 6 | 11 | 17 | 14 | 30 | |
| 23 | 13 | 38 | 11 | 12 | 18 | 31 | 12 | 11 | 16 | 10 | 10 | 11 | 14 | 9 | 13 | 11 | 10 | 9 | 16 | 17 | 11 | 22 | 18 | 12 | 15 | 38 | |
| 24 | 12 | 8 | 9 | 7 | 3 | 5 | 13 | 6 | 15 | 35 | (CM) | 23 | 11 | 12 | 14 | 15 | 14 | 14 | 3 | 8 | 6 | 3 | 4 | 13 | 11 | 35 | |
| 25 | 11 | 10 | 14 | 9 | 9 | 10 | 7 | 11 | 22 | 21 | 27 | 31 | 22 | 37 | 32 | 19 | 11 | 6 | 5 | 3 | 2 | 9 | 9 | 9 | 15 | 37 | |
| 26 | (CM) | (CM) | 3 | 9 | 15 | 8 | 6 | 8 | 7 | 25 | 14 | 14 | 13 | 17 | 18 | 18 | 10 | 7 | 3 | 3 | 2 | 8 | 8 | 8 | 10 | 25 | |
| 27 | 8 | 8 | 5 | 13 | 6 | 13 | 6 | 9 | 9 | 11 | 12 | 13 | 13 | 10 | 11 | 11 | 12 | 9 | 13 | 5 | 9 | 5 | 3 | 6 | 9 | 13 | |
| 28 | 2 | 6 | 11 | 10 | 15 | 6 | 13 | 6 | 11 | 10 | 13 | 15 | 16 | 17 | 15 | 14 | 12 | 9 | 7 | 6 | 6 | 8 | 7 | 9 | 10 | 17 | |
| 29 | 7 | 7 | 6 | 5 | 5 | 6 | 20 | 17 | 31 | 14 | 13 | 15 | 15 | 12 | 9 | 12 | 9 | 9 | 8 | 8 | 7 | 4 | 6 | 6 | 11 | 31 | |
| 30 | 8 | 6 | 18 | 9 | 9 | 19 | 13 | 17 | 11 | 13 | 17 | 22 | 9 | 9 | 9 | 9 | 13 | 10 | 7 | 7 | 10 | 8 | 6 | 6 | 11 | 22 | |
| AV | 9 | 9 | 9 | 10 | 11 | 12 | 10 | 11 | 17 | 19 | 20 | 19 | 18 | 18 | 17 | 17 | 14 | 10 | 7 | 7 | 8 | 10 | 8 | 10 | 13 | | |
| PK | 15 | 38 | 26 | 28 | 23 | 31 | 23 | 23 | 34 | 41 | 37 | 33 | 31 | 47 | 32 | 33 | 23 | 21 | 16 | 17 | 24 | 22 | 21 | 24 | | 47 | |

SIGMA HORIZ. WIND DIR. = 30M
DEGREES

CB-TRACT
TRAILER AA23
SEPT. 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|----|----|------|------|----|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|------|-----|------|----|
| 1 | 9 | 9 | 9 | 10 | 12 | 15 | 6 | 9 | 19 | 21 | 30 | 23 | 15 | 12 | 12 | 27 | 19 | 9 | 6 | 6 | 6 | 17 | 9 | 9 | 13 | 30 | |
| 2 | 12 | 14 | 19 | 29 | 12 | 43 | 30 | 17 | 22 | 10 | 11 | 14 | 12 | 11 | 12 | 12 | 11 | 9 | 8 | 7 | 8 | 16 | 6 | 14 | 15 | 43 | |
| 3 | 7 | 10 | 7 | 6 | 18 | 19 | 15 | 8 | 12 | 21 | 22 | 18 | 24 | 14 | 9 | 11 | 10 | 11 | 6 | 5 | 8 | 10 | 10 | 24 | 13 | 24 | |
| 4 | 12 | 6 | 13 | 10 | 10 | 6 | 10 | 24 | 11 | 17 | 23 | 21 | 26 | 26 | 19 | 16 | 16 | 30 | 7 | 9 | 35 | 11 | 6 | 5 | 15 | 35 | |
| 5 | 10 | 9 | 5 | 19 | 5 | 12 | 14 | 12 | 16 | 12 | 13 | 13 | 13 | 12 | 14 | 13 | 10 | 8 | 4 | 9 | 7 | 12 | 7 | 6 | 10 | 19 | |
| 6 | 5 | 12 | 8 | 14 | 8 | 14 | (CM) | 10 | 15 | 26 | 30 | 31 | 27 | 23 | 14 | 17 | 20 | 9 | 10 | 9 | 15 | 9 | 14 | 18 | 16 | 31 | |
| 7 | 16 | 12 | 5 | 5 | 6 | 12 | 6 | 7 | 12 | 23 | 21 | 16 | 20 | 15 | 13 | 12 | 9 | 8 | 8 | 7 | 7 | 6 | 5 | 8 | 11 | 21 | |
| 8 | 5 | 7 | 10 | 28 | 39 | 41 | 19 | 21 | 29 | 9 | 9 | 14 | 14 | 13 | 13 | 10 | 11 | 9 | 5 | 3 | 5 | 5 | 6 | 8 | 14 | 41 | |
| 9 | 7 | 7 | 6 | 4 | 9 | 23 | 23 | 13 | 12 | 12 | 13 | 13 | 12 | 11 | 11 | 11 | 11 | 7 | 3 | 4 | 7 | 8 | 7 | 7 | 11 | 23 | |
| 10 | 11 | 6 | 13 | 4 | 6 | 8 | 12 | 17 | 36 | 36 | 26 | 19 | 16 | 21 | 24 | 14 | 12 | 6 | 6 | 10 | 11 | 12 | (CM) | 9 | 15 | 36 | |
| 11 | 9 | 6 | 16 | 9 | 14 | 17 | (CM) | 16 | 15 | 20 | 19 | 19 | 12 | 16 | 22 | 12 | 10 | 11 | 14 | 7 | 15 | 9 | 9 | 13 | 22 | 33 | |
| 12 | 13 | 15 | 21 | (CM) | 9 | 11 | 0 | 24 | 32 | 18 | 27 | 30 | 15 | 17 | 15 | 10 | 10 | 9 | 6 | 9 | 11 | 16 | 28 | 6 | 15 | 32 | |
| 13 | 14 | 13 | 14 | 13 | 27 | 15 | 14 | 5 | 13 | 9 | 12 | 9 | 10 | 10 | 12 | 12 | 19 | 12 | 7 | 8 | 14 | 15 | 28 | 10 | 13 | 28 | |
| 14 | 13 | 14 | 13 | 10 | 7 | (CM) | 14 | 29 | 14 | 25 | 21 | 20 | 14 | 22 | 15 | 14 | 15 | 11 | 8 | 6 | 4 | 9 | 10 | (CM) | 28 | 14 | 29 |
| 15 | 9 | 12 | 10 | 7 | 9 | 20 | 25 | 13 | 18 | 22 | 17 | 17 | 13 | 16 | 13 | 14 | 12 | 8 | 4 | 4 | 9 | 10 | (CM) | 28 | 14 | 29 | |
| 16 | 15 | 8 | 13 | 22 | 29 | 19 | 6 | 7 | 10 | 14 | 13 | 9 | 11 | 12 | 11 | 12 | 11 | 9 | 8 | 7 | 9 | 4 | 5 | 4 | 28 | 13 | 34 |
| 17 | 34 | 13 | 23 | 18 | 13 | 8 | 9 | 8 | 10 | 10 | 13 | 14 | 13 | 13 | 12 | 21 | 8 | 9 | 8 | 9 | 7 | 7 | 6 | 5 | 4 | 12 | 4 |
| 18 | 6 | 7 | 7 | 6 | 7 | 6 | 6 | 8 | 8 | 9 | 11 | 10 | 12 | 10 | 10 | 8 | 8 | 9 | 8 | 9 | 7 | 7 | 6 | 5 | 4 | 12 | 4 |
| 19 | 4 | 5 | 4 | 5 | 4 | 5 | 8 | 20 | 28 | 30 | 36 | 23 | 15 | 49 | 33 | 28 | 22 | 9 | 4 | 6 | 5 | 13 | 14 | 24 | 16 | 49 | |
| 20 | 4 | 10 | (CM) | 24 | 18 | 9 | 23 | 16 | 20 | 23 | 20 | 34 | 31 | 23 | 26 | 21 | 19 | 8 | 5 | 4 | 4 | 21 | 18 | 15 | 19 | 41 | |
| 21 | 12 | 10 | 15 | 18 | 13 | 8 | 14 | 7 | 13 | 17 | 20 | 31 | 27 | 20 | 14 | 22 | 18 | 7 | 4 | 3 | 4 | 4 | 8 | 16 | 15 | 31 | |
| 22 | 23 | 14 | 29 | 7 | 13 | 22 | 34 | 10 | 10 | 13 | 8 | 11 | 12 | 8 | 14 | 11 | 10 | 8 | 19 | 28 | 11 | 25 | 24 | 14 | 15 | 34 | |
| 23 | 14 | 12 | 7 | 8 | 7 | 4 | 5 | 13 | 10 | 26 | 39 | 24 | 18 | 10 | 13 | 14 | 13 | 13 | 13 | 9 | 12 | 6 | 7 | 13 | 12 | 39 | |
| 24 | 12 | 7 | 14 | 8 | 13 | 9 | 15 | 13 | 24 | 18 | 26 | 34 | 19 | 31 | 26 | 18 | 9 | 6 | 5 | 7 | 7 | 12 | 13 | 7 | 15 | 34 | |
| 25 | 12 | 4 | 14 | 8 | 13 | 9 | 15 | 13 | 24 | 18 | 26 | 34 | 19 | 31 | 26 | 18 | 9 | 6 | 5 | 7 | 7 | 12 | 13 | 7 | 15 | 34 | |
| 26 | 11 | 11 | 16 | 21 | 23 | 12 | 5 | 6 | 9 | 24 | 13 | 12 | 13 | 16 | 16 | 10 | 6 | 2 | 2 | 3 | 7 | 7 | 8 | 11 | 24 | 14 | |
| 27 | 7 | 7 | 7 | 4 | 14 | 5 | 7 | 9 | 10 | 9 | 12 | 11 | 12 | 9 | 10 | 9 | 10 | 8 | 12 | 4 | 5 | 3 | 3 | 2 | 8 | 14 | |
| 28 | 1 | 4 | 6 | 5 | 14 | 4 | 7 | 5 | 10 | 9 | 12 | 13 | 17 | 17 | 15 | 14 | 10 | 9 | 7 | 5 | 6 | 7 | 6 | 10 | 9 | 17 | |
| 29 | 8 | 7 | 4 | 3 | 4 | 5 | 21 | 16 | 26 | 13 | 14 | 15 | 15 | 12 | 8 | 10 | 8 | 9 | 7 | 7 | 8 | 8 | 4 | 5 | 10 | 26 | |
| 30 | 8 | 5 | 15 | 6 | 6 | 17 | 11 | 19 | 8 | 11 | 12 | 16 | 22 | 8 | 8 | 12 | 8 | 5 | 7 | 9 | 7 | 4 | 4 | 5 | 10 | 22 | |
| AVG | 12 | 11 | 11 | 12 | 13 | 14 | 13 | 13 | 18 | 18 | 19 | 18 | 17 | 17 | 15 | 15 | 12 | 9 | 7 | 8 | 10 | 10 | 10 | 12 | 13 | 49 | |
| PK | 38 | 29 | 23 | 29 | 39 | 43 | 30 | 28 | 36 | 39 | 36 | 34 | 31 | 49 | 33 | 28 | 22 | 30 | 19 | 28 | 41 | 25 | 28 | 28 | 49 | | |

SIGMA HORIZ. WIND DIR. = 60M
DEGREES

CH-TRACT
TRAILER AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|------|------|-----|------|----|
| 1 | 9 | 10 | 4 | 6 | 4 | 10 | 10 | 5 | 17 | 22 | 24 | 20 | 13 | 11 | 11 | 24 | 16 | 8 | 5 | 4 | 4 | 13 | 9 | 8 | 11 | 24 | |
| 2 | 10 | 17 | 14 | 17 | 12 | 8 | 16 | 9 | 13 | 9 | 10 | 14 | 11 | 10 | 11 | 11 | 9 | 8 | 7 | 6 | 5 | 4 | 5 | 15 | 11 | 18 | |
| 3 | 3 | 3 | 4 | 2 | 5 | 8 | 9 | 9 | 10 | 17 | 17 | 17 | 17 | 21 | 13 | 8 | 9 | 9 | 5 | 5 | 8 | 7 | 10 | 20 | 10 | 21 | |
| 4 | 14 | 6 | 9 | 9 | 15 | 5 | 10 | 24 | 14 | 17 | 16 | 18 | 24 | 23 | 16 | 15 | 16 | 20 | 5 | 3 | 10 | 20 | 4 | 4 | 13 | 24 | |
| 5 | 5 | 10 | 13 | 4 | 17 | 3 | 4 | 10 | 12 | 14 | 10 | 12 | 11 | 11 | 11 | 13 | 10 | 7 | 3 | 8 | 6 | 9 | 13 | 4 | 9 | 17 | |
| 6 | 5 | 32 | 9 | 9 | 0 | 0 | 6 | 4 | 14 | 27 | 25 | 29 | 28 | 18 | 13 | 14 | 19 | 9 | 10 | 10 | 8 | 6 | 11 | 9 | 13 | 32 | |
| 7 | 14 | 4 | 6 | 5 | 6 | 7 | 4 | 4 | 11 | 21 | 18 | 15 | 19 | 14 | 11 | 11 | 9 | 7 | 7 | 7 | 7 | 4 | 3 | 6 | 9 | 20 | |
| 8 | 3 | 6 | 9 | 27 | 25 | 25 | 27 | 30 | 25 | 8 | 8 | 12 | 12 | 11 | 11 | 10 | 10 | 7 | 4 | 2 | 3 | 4 | 4 | 6 | 12 | 30 | |
| 9 | 7 | 19 | 9 | 4 | 4 | 7 | 3 | 11 | 31 | 30 | 22 | 18 | 14 | 18 | 21 | 15 | 11 | 5 | 6 | 13 | 6 | 10 | 4 | 13 | 12 | 31 | |
| 10 | 12 | 9 | 11 | 4 | 4 | 6 | 11 | 6 | 16 | 22 | 18 | 15 | 11 | 12 | 15 | 25 | 13 | 10 | 10 | 12 | 0 | 6 | 9 | 7 | 10 | 25 | |
| 11 | 8 | 6 | 6 | 6 | 1 | 6 | 6 | 9 | 18 | 27 | 28 | 26 | 26 | 28 | 32 | 19 | 10 | 6 | 4 | 7 | 6 | 8 | 7 | 6 | 12 | 32 | |
| 12 | 7 | 5 | 5 | 5 | 5 | 5 | 2 | 4 | 29 | 20 | 18 | 27 | 12 | 14 | 14 | 9 | 9 | 8 | 3 | 10 | 6 | 14 | 28 | 9 | 11 | 29 | |
| 13 | 4 | 5 | 2 | 2 | 0 | 6 | 6 | 9 | 12 | 8 | 11 | 9 | 8 | 9 | 11 | 12 | 18 | 10 | 6 | 7 | 4 | 16 | 33 | 8 | 12 | 33 | |
| 14 | 11 | 13 | 21 | 23 | 10 | 10 | 14 | 6 | 12 | 8 | 11 | 9 | 8 | 9 | 11 | 12 | 18 | 10 | 6 | 7 | 4 | 16 | 33 | 8 | 12 | 33 | |
| 15 | 5 | 7 | 7 | 6 | 6 | 5 | 9 | 12 | 16 | 19 | 18 | 12 | 19 | 15 | 13 | 14 | 9 | 7 | 4 | 6 | 11 | 8 | 4 | 10 | 10 | 19 | |
| 16 | 8 | 7 | 4 | 3 | 8 | 19 | 6 | 4 | 6 | 7 | 20 | 13 | 15 | 12 | 14 | 12 | 11 | 6 | 2 | 1 | 8 | 5 | 13 | 10 | 10 | 20 | |
| 17 | 15 | 10 | 12 | 19 | 13 | 9 | 4 | 6 | 8 | 12 | 13 | 9 | 10 | 12 | 10 | 11 | 8 | 7 | 4 | 6 | 4 | 2 | 3 | 16 | 9 | 19 | |
| 18 | 43 | 7 | 28 | 18 | 9 | 6 | 8 | 7 | 9 | 9 | 12 | 12 | 13 | 11 | 11 | 18 | 9 | 7 | 5 | 5 | 6 | 6 | 6 | 11 | 43 | 43 | |
| 19 | 5 | 6 | 5 | 4 | 5 | 4 | 4 | 4 | 7 | 8 | 11 | 10 | 11 | 9 | 9 | 8 | 6 | 8 | 7 | 9 | 7 | 6 | 5 | 4 | 7 | 11 | 41 |
| 20 | 4 | 3 | 4 | 3 | 2 | 4 | 5 | 15 | 23 | 30 | 36 | 19 | 14 | 44 | 29 | 26 | 19 | 8 | 4 | 4 | 4 | 8 | 14 | (CM) | 14 | 44 | |
| 21 | 8 | 4 | 7 | 17 | 15 | 6 | 10 | 9 | 19 | 32 | 17 | 23 | 30 | 23 | 24 | 20 | 16 | 7 | 4 | 2 | 22 | 20 | 17 | 9 | 15 | 32 | |
| 22 | 10 | 15 | 8 | 6 | 0 | 8 | 6 | 2 | 10 | 16 | 18 | 28 | 26 | 17 | 13 | 19 | 20 | 6 | 2 | 2 | 3 | 4 | 4 | 27 | 11 | 28 | |
| 23 | 16 | 19 | 5 | 7 | 24 | 27 | 8 | 8 | 11 | 7 | 6 | 9 | 11 | 6 | 14 | 10 | 9 | 7 | 18 | 23 | 12 | 14 | 26 | 18 | 13 | 27 | |
| 24 | 12 | 7 | 10 | 7 | 5 | 4 | 9 | 24 | (CM) | 36 | 19 | 17 | 8 | 8 | 12 | 13 | 11 | 11 | 2 | 6 | 21 | 10 | 9 | 3 | 11 | 36 | |
| 25 | 11 | 5 | 6 | 8 | 8 | 4 | 0 | 4 | 16 | 19 | 29 | 34 | 18 | 28 | 22 | 19 | 9 | 4 | 3 | 6 | 5 | 12 | (CM) | 12 | 34 | | |
| 26 | 0 | 5 | 6 | 3 | 4 | 6 | 5 | 5 | 10 | 20 | 13 | 11 | 12 | 14 | 15 | 13 | 9 | 5 | 2 | 2 | 2 | 7 | 6 | 6 | 8 | 20 | |
| 27 | 6 | 6 | 6 | 2 | 11 | 3 | 6 | 3 | 7 | 8 | 10 | 11 | 10 | 12 | 8 | 9 | 9 | 7 | 6 | 4 | 4 | 5 | 4 | 8 | 7 | 12 | |
| 28 | 1 | 4 | 3 | 2 | 6 | 3 | 3 | 3 | 9 | 7 | 11 | 12 | 15 | 15 | 14 | 12 | 9 | 8 | 4 | 4 | 4 | 5 | 4 | 8 | 7 | 15 | |
| 29 | 6 | 5 | 2 | 1 | 2 | 3 | 15 | 19 | 23 | 11 | 12 | 16 | 14 | 10 | 7 | 9 | 7 | 7 | 6 | 6 | 6 | 7 | 3 | 3 | 8 | 23 | |
| 30 | 9 | 7 | 19 | 6 | 7 | 15 | 10 | 16 | 7 | 9 | 10 | 15 | 20 | 7 | 7 | 10 | 7 | 4 | 4 | 7 | 5 | 2 | 2 | 3 | 9 | 20 | |
| AV | 9 | 9 | 8 | 8 | 8 | 8 | 8 | 10 | 15 | 17 | 16 | 16 | 16 | 15 | 14 | 14 | 11 | 8 | 5 | 6 | 7 | 8 | 9 | 9 | 11 | 44 | |
| PK | 43 | 32 | 28 | 27 | 25 | 27 | 27 | 30 | 31 | 36 | 36 | 34 | 30 | 44 | 32 | 26 | 20 | 20 | 18 | 23 | 22 | 20 | 33 | 27 | | | |

TEMPERATURE * 10M
DEGREE C

CB-THACT
TRAILER AA23
SEPTEMBER 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | AVE PEAK | |
|-----|----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1 | 14 | 14 | 14 | 14 | 14 | 15 | 16 | 20 | 24 | 28 | 29 | 30 | 31 | 29 | 28 | 29 | 29 | 27 | 25 | 23 | 22 | 21 | 19 | 14 | 22 | 31 |
| 2 | 14 | 14 | 14 | 14 | 14 | 14 | 15 | 17 | 21 | 24 | 27 | 28 | 28 | 28 | 28 | 28 | 28 | 27 | 24 | 21 | 18 | 15 | 14 | 13 | 20 | 28 |
| 3 | 13 | 12 | 11 | 12 | 13 | 14 | 14 | 13 | 16 | 19 | 23 | 25 | 27 | 28 | 28 | 28 | 28 | 27 | 24 | 21 | 18 | 13 | 11 | 11 | 15 | 28 |
| 4 | 11 | 10 | 10 | 9 | 9 | 10 | 10 | 13 | 14 | 17 | 19 | 20 | 19 | 22 | 21 | 18 | 18 | 21 | 18 | 14 | 13 | 12 | 11 | 11 | 19 | 28 |
| 5 | 12 | 11 | 11 | 9 | 8 | 9 | 9 | 13 | 18 | 20 | 22 | 23 | 24 | 24 | 25 | 25 | 24 | 23 | 21 | 17 | 13 | 15 | 14 | 17 | 25 | 22 |
| 6 | 14 | 12 | 12 | 9 | 9 | 8 | 10 | 13 | 17 | 22 | 24 | 26 | 27 | 28 | 28 | 28 | 28 | 27 | 23 | 19 | 17 | 16 | 15 | 14 | 19 | 24 |
| 7 | 14 | 12 | 13 | 13 | 13 | 13 | 14 | 18 | 22 | 27 | 28 | 29 | 29 | 30 | 29 | 28 | 26 | 25 | 22 | 19 | 17 | 17 | 16 | 16 | 20 | 30 |
| 8 | 15 | 14 | 14 | 13 | 13 | 13 | 13 | 16 | 21 | 23 | 24 | 24 | 25 | 24 | 25 | 25 | 24 | 23 | 20 | 18 | 17 | 17 | 17 | 16 | 18 | 25 |
| 9 | 14 | 14 | 13 | 14 | 13 | 12 | 12 | 16 | 21 | 23 | 24 | 25 | 26 | 26 | 27 | 26 | 26 | 23 | 21 | 19 | 18 | 18 | 17 | 16 | 19 | 27 |
| 10 | 15 | 14 | 13 | 12 | 11 | 9 | 9 | 11 | 16 | 19 | 22 | 24 | 25 | 26 | 27 | 27 | 27 | 25 | 22 | 19 | 17 | 15 | 13 | 12 | 18 | 27 |
| 11 | 12 | 12 | 11 | 10 | 11 | 9 | 9 | 13 | 18 | 22 | 24 | 26 | 26 | 27 | 27 | 27 | 27 | 27 | 24 | 22 | 19 | 17 | 16 | 13 | 18 | 27 |
| 12 | 13 | 12 | 11 | 10 | 8 | 8 | 8 | 12 | 17 | 21 | 23 | 24 | 26 | 27 | 27 | 27 | 26 | 25 | 22 | 18 | 17 | 16 | 14 | 13 | 18 | 27 |
| 13 | 13 | 12 | 11 | 10 | 10 | 8 | 8 | 12 | 17 | 21 | 24 | 27 | 27 | 27 | 27 | 27 | 26 | 25 | 22 | 18 | 17 | 16 | 14 | 13 | 18 | 27 |
| 14 | 14 | 16 | 16 | 16 | 17 | 16 | 14 | 16 | 21 | 21 | 24 | 27 | 27 | 27 | 27 | 27 | 26 | 25 | 22 | 18 | 17 | 16 | 14 | 13 | 18 | 27 |
| 15 | 12 | 11 | 10 | 10 | 9 | 9 | 9 | 13 | 17 | 21 | 24 | 27 | 27 | 27 | 27 | 27 | 26 | 25 | 22 | 18 | 17 | 16 | 14 | 13 | 18 | 27 |
| 16 | 11 | 12 | 11 | 11 | 9 | 9 | 10 | 14 | 18 | 22 | 23 | 24 | 25 | 26 | 26 | 25 | 24 | 23 | 20 | 17 | 16 | 14 | 13 | 12 | 17 | 24 |
| 17 | 16 | 16 | 16 | 14 | 14 | 13 | 14 | 17 | 20 | 24 | 24 | 25 | 26 | 26 | 26 | 26 | 26 | 23 | 20 | 18 | 17 | 16 | 14 | 14 | 18 | 26 |
| 18 | 13 | 14 | 14 | 14 | 14 | 15 | 14 | 17 | 19 | 21 | 23 | 24 | 26 | 26 | 25 | 24 | 25 | 23 | 21 | 18 | 16 | 16 | 14 | 14 | 19 | 26 |
| 19 | 16 | 16 | 16 | 16 | 16 | 15 | 15 | 17 | 19 | 21 | 22 | 23 | 20 | 14 | 18 | 19 | 17 | 14 | 10 | 7 | 4 | 3 | 2 | 1 | 14 | 23 |
| 20 | 0 | -2 | -3 | -4 | -6 | -7 | -7 | 0 | 3 | 6 | 8 | 8 | 8 | 11 | 12 | 12 | 12 | 11 | 7 | 4 | 4 | 2 | 1 | 1 | 3 | 12 |
| 21 | 0 | -1 | -1 | -1 | -3 | -2 | 2 | 8 | 13 | 16 | 18 | 19 | 20 | 21 | 21 | 21 | 21 | 17 | 13 | 11 | 9 | 8 | 8 | 9 | 21 | |
| 22 | 8 | 7 | 6 | 4 | 3 | 3 | 2 | 7 | 11 | 16 | 19 | 22 | 23 | 23 | 23 | 23 | 22 | 20 | 16 | 13 | 13 | 13 | 13 | 13 | 23 | |
| 23 | 12 | 11 | 11 | 9 | 11 | 11 | 11 | 14 | 16 | 17 | 12 | 11 | 15 | 10 | 12 | 14 | 16 | 15 | 13 | 12 | 11 | 10 | 10 | 11 | 12 | 17 |
| 24 | 11 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 13 | 16 | 17 | 18 | 18 | 19 | 18 | 17 | 17 | 14 | 12 | 11 | 10 | 9 | 9 | 9 | 13 | 19 |
| 25 | 8 | 8 | 7 | 7 | 7 | 6 | 6 | 9 | 13 | 17 | 19 | 22 | 21 | 21 | 21 | 21 | 22 | 18 | 16 | 14 | 13 | 13 | 11 | 10 | 14 | 22 |
| 26 | 9 | 8 | 8 | 8 | 8 | 9 | 12 | 13 | 14 | 19 | 21 | 22 | 22 | 23 | 24 | 22 | 21 | 19 | 17 | 16 | 14 | 14 | 13 | 11 | 15 | 24 |
| 27 | 12 | 11 | 9 | 9 | 9 | 9 | 11 | 13 | 14 | 16 | 17 | 19 | 20 | 19 | 19 | 19 | 19 | 17 | 14 | 13 | 13 | 12 | 11 | 10 | 14 | 20 |
| 28 | 10 | 9 | 9 | 8 | 7 | 8 | 8 | 12 | 16 | 17 | 19 | 21 | 21 | 22 | 22 | 22 | 21 | 19 | 16 | 14 | 14 | 13 | 13 | 13 | 15 | 22 |
| 29 | 13 | 13 | 12 | 11 | 11 | 11 | 9 | 13 | 16 | 18 | 18 | 19 | 19 | 18 | 18 | 18 | 18 | 14 | 12 | 9 | 9 | 9 | 8 | 8 | 14 | 19 |
| 30 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 8 | 9 | 9 | 11 | 10 | 9 | 9 | 11 | 11 | 10 | 8 | 8 | 8 | 7 | 7 | 8 | 9 | 19 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| AV | 12 | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 21 | 22 | 22 | 23 | 23 | 23 | 22 | 21 | 18 | 15 | 14 | 13 | 12 | 12 | 16 | 31 |
| PK | 16 | 16 | 16 | 16 | 17 | 16 | 16 | 16 | 20 | 24 | 29 | 30 | 31 | 30 | 29 | 29 | 27 | 25 | 23 | 22 | 22 | 21 | 19 | 16 | | |
| MN | 0 | -2 | -3 | -4 | -6 | -7 | -7 | -3 | 0 | 3 | 6 | 8 | 8 | 9 | 9 | 11 | 11 | 10 | 7 | 4 | 4 | 2 | 1 | 1 | | |

MONTHLY MINIMUM = -7

TEMPERATURE ~ 30M
DEGREE C

CB-TRACT
TRAILER- AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|-----|------|
| 1 | 16 | 16 | 17 | 16 | 16 | 16 | 17 | 20 | 24 | 27 | 27 | 28 | 28 | 27 | 27 | 27 | 28 | 27 | 25 | 23 | 22 | 21 | 19 | 16 | 22 | 28 |
| 2 | 14 | 15 | 14 | 15 | 16 | 16 | 17 | 18 | 21 | 23 | 24 | 26 | 26 | 26 | 27 | 27 | 26 | 26 | 19 | 18 | 17 | 16 | 15 | 14 | 20 | 27 |
| 3 | 13 | 8 | 10 | 12 | 13 | 14 | 15 | 13 | 16 | 18 | 18 | 23 | 25 | 26 | 26 | 26 | 26 | 25 | 24 | 23 | 18 | 13 | 11 | 11 | 18 | 26 |
| 4 | 11 | 10 | 10 | 10 | 12 | 11 | 13 | 14 | 17 | 18 | 19 | 18 | 19 | 21 | 19 | 18 | 19 | 18 | 16 | 14 | 13 | 13 | 13 | 15 | 21 | 21 |
| 5 | 16 | 13 | 12 | 12 | 9 | 11 | 12 | 13 | 17 | 18 | 21 | 22 | 23 | 23 | 24 | 23 | 23 | 22 | 21 | 18 | 16 | 16 | 16 | 16 | 17 | 24 |
| 6 | 16 | 13 | 13 | 11 | 10 | 9 | 9 | 13 | 17 | 21 | 23 | 24 | 26 | 27 | 27 | 27 | 27 | 26 | 23 | 21 | 18 | 18 | 17 | 16 | 19 | 27 |
| 7 | 16 | 14 | 14 | 14 | 14 | 14 | 16 | 18 | 16 | 26 | 27 | 28 | 27 | 27 | 27 | 27 | 25 | 23 | 21 | 18 | 17 | 17 | 11 | 12 | 20 | 28 |
| 8 | 13 | 13 | 13 | 13 | 11 | 12 | 12 | 14 | 16 | 17 | 19 | 21 | 22 | 21 | 20 | 23 | 23 | 22 | 19 | 8 | 13 | 16 | 15 | 14 | 16 | 23 |
| 9 | 14 | 14 | 13 | 13 | 13 | 12 | 12 | 12 | 3 | 13 | 12 | 13 | 14 | 16 | 21 | 22 | 23 | 21 | 17 | 15 | 18 | 17 | 16 | 14 | 15 | 23 |
| 10 | 14 | 14 | 13 | 12 | 9 | 11 | 10 | 12 | 16 | 18 | 22 | 23 | 24 | 26 | 26 | 26 | 26 | 24 | 22 | 20 | 18 | 17 | 14 | 13 | 18 | 26 |
| 11 | 13 | 13 | 11 | 11 | 11 | 8 | 11 | 14 | 18 | 21 | 23 | 24 | 26 | 26 | 26 | 26 | 26 | 25 | 23 | 21 | 19 | 18 | 17 | 15 | 17 | 26 |
| 12 | 13 | 12 | 12 | 12 | 10 | 9 | 9 | 13 | 17 | 20 | 23 | 26 | 26 | 26 | 26 | 26 | 26 | 24 | 21 | 20 | 18 | 17 | 17 | 14 | 18 | 26 |
| 13 | 12 | 12 | 12 | 11 | 10 | 9 | 9 | 13 | 17 | 19 | 22 | 21 | 18 | 17 | 10 | 9 | 15 | 17 | 17 | 16 | 14 | 14 | 11 | 13 | 16 | 22 |
| 14 | 14 | 16 | 17 | 17 | 18 | 17 | 14 | 16 | 19 | 19 | 22 | 23 | 24 | 24 | 24 | 24 | 24 | 23 | 19 | 18 | 18 | 16 | 14 | 11 | 17 | 24 |
| 15 | 13 | 12 | 11 | 11 | 11 | 11 | 12 | 13 | 17 | 19 | 21 | 22 | 23 | 24 | 25 | 25 | 24 | 24 | 23 | 21 | 19 | 18 | 16 | 16 | 18 | 25 |
| 16 | 12 | 13 | 13 | 12 | 11 | 11 | 11 | 15 | 18 | 21 | 22 | 23 | 24 | 25 | 25 | 24 | 24 | 23 | 21 | 19 | 18 | 18 | 16 | 16 | 18 | 25 |
| 17 | 16 | 17 | 17 | 16 | 14 | 14 | 17 | 17 | 18 | 21 | 24 | 24 | 26 | 24 | 24 | 23 | 24 | 23 | 21 | 19 | 19 | 17 | 17 | 16 | 19 | 26 |
| 18 | 13 | 15 | 14 | 14 | 14 | 14 | 14 | 17 | 19 | 20 | 21 | 18 | 18 | 19 | 6 | 1 | 2 | 13 | 15 | 19 | 18 | 17 | 17 | 16 | 15 | 21 |
| 19 | 17 | 17 | 17 | 17 | 16 | 16 | 16 | 17 | 18 | 19 | 14 | 11 | 9 | 15 | 18 | 19 | 17 | 14 | 9 | 7 | 6 | 4 | 3 | 2 | 13 | 19 |
| 20 | 1 | -2 | -3 | -4 | -5 | -6 | -6 | -4 | -1 | 2 | 4 | 7 | 8 | 9 | 10 | 11 | 11 | 9 | 7 | 4 | 3 | 3 | 2 | 1 | 3 | 11 |
| 21 | 2 | 0 | 1 | 1 | 0 | -1 | -1 | 2 | 8 | 12 | 14 | 16 | 18 | 18 | 19 | 19 | 18 | 17 | 14 | 13 | 11 | 9 | 9 | 8 | 9 | 19 |
| 22 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 7 | 11 | 14 | 18 | 20 | 21 | 22 | 22 | 22 | 21 | 19 | 17 | 16 | 16 | 15 | 15 | 14 | 22 | 22 |
| 23 | 14 | 13 | 13 | 12 | 8 | 12 | 13 | 14 | 16 | 16 | 9 | 8 | 14 | 1 | 10 | 14 | 16 | 14 | 13 | 12 | 11 | 5 | 1 | 1 | 16 | 16 |
| 24 | 1 | 3 | 10 | 10 | 10 | 10 | 10 | 11 | 12 | 16 | 17 | 17 | 16 | 17 | 18 | 17 | 17 | 17 | 15 | 14 | 10 | 11 | 11 | 9 | 12 | 18 |
| 25 | 8 | 9 | 9 | 8 | 8 | 6 | 7 | 9 | 12 | 16 | 18 | 20 | 19 | 19 | 19 | 21 | 18 | 16 | 15 | 14 | 13 | 12 | 9 | 14 | 21 | 21 |
| 26 | 8 | 9 | 9 | 8 | 9 | 11 | 12 | 12 | 14 | 18 | 15 | 16 | 16 | 14 | 17 | 16 | 14 | 13 | 12 | 14 | 15 | 14 | 12 | 13 | 18 | 18 |
| 27 | 12 | 10 | 10 | 10 | 9 | 9 | 9 | 13 | 13 | 12 | 16 | 14 | 17 | 16 | 7 | 3 | (1M) | 12 | 13 | 14 | 14 | 14 | 11 | 11 | 12 | 17 |
| 28 | 12 | 11 | 10 | 10 | 8 | 9 | 9 | 11 | 14 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 18 | 15 | 14 | 14 | 13 | 13 | 13 | 14 | 19 | 19 |
| 29 | 13 | 11 | 11 | 10 | 8 | 9 | 9 | 12 | 15 | 17 | 17 | 18 | 18 | 17 | 17 | 18 | 17 | 14 | 11 | 10 | 9 | 9 | 8 | 7 | 13 | 18 |
| 30 | 5 | 7 | 9 | 9 | 9 | 9 | 9 | 9 | 8 | 6 | 9 | 10 | 9 | 9 | 9 | 10 | 11 | 10 | 9 | 8 | 8 | 8 | 8 | 9 | 11 | 11 |
| AV | 12 | 11 | 11 | 11 | 10 | 10 | 11 | 13 | 15 | 17 | 19 | 19 | 20 | 20 | 20 | 20 | 20 | 20 | 17 | 16 | 15 | 14 | 12 | 12 | 15 | 28 |
| PK | 1 | -2 | -3 | -4 | -5 | -6 | -6 | -4 | -1 | 2 | 4 | 7 | 8 | 9 | 10 | 11 | 12 | 9 | 7 | 4 | 3 | 3 | 1 | 1 | 1 | 1 |

MONTHLY MINIMUM = -6

TEMPERATURE @ 60M
DEGREE C

CB-TRACT
TRAILER AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 17 | 18 | 17 | 17 | 18 | 17 | 17 | 21 | 24 | 27 | 28 | 28 | 28 | 28 | 27 | 28 | 28 | 27 | 24 | 23 | 23 | 22 | 19 | 15 | 22 | 28 |
| 2 | 16 | 16 | 15 | 16 | 16 | 17 | 17 | 19 | 21 | 24 | 26 | 26 | 27 | 27 | 27 | 27 | 27 | 26 | 19 | 18 | 17 | 16 | 15 | 14 | 20 | 27 |
| 3 | 13 | 13 | 13 | 13 | 13 | 15 | 16 | 14 | 15 | 18 | 18 | 18 | 26 | 27 | 27 | 27 | 26 | 26 | 24 | 23 | 19 | 13 | 11 | 11 | 11 | 27 |
| 4 | 10 | 10 | 10 | 11 | 11 | 12 | 11 | 13 | 14 | 17 | 18 | 18 | 21 | 20 | 18 | 18 | 18 | 16 | 15 | 14 | 15 | 14 | 13 | 13 | 15 | 21 |
| 5 | 13 | 12 | 12 | 12 | 11 | 11 | 11 | 13 | 14 | 17 | 19 | 21 | 22 | 23 | 23 | 23 | 23 | 21 | 19 | 18 | 16 | 16 | 16 | 16 | 17 | 23 |
| 6 | 16 | 14 | 13 | 12 | 11 | 11 | 12 | 15 | 18 | 21 | 23 | 24 | 26 | 26 | 26 | 27 | 27 | 26 | 23 | 21 | 18 | 16 | 17 | 17 | 19 | 27 |
| 7 | 16 | 15 | 16 | 16 | 16 | 16 | 17 | 19 | 22 | 26 | 27 | 28 | 28 | 28 | 28 | 28 | 27 | 25 | 21 | 19 | 17 | 17 | 16 | 16 | 21 | 28 |
| 8 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 14 | 16 | 17 | 19 | 22 | 22 | 23 | 23 | 23 | 23 | 22 | 20 | 18 | 18 | 17 | 16 | 18 | 23 | 28 |
| 9 | 17 | 16 | 14 | 16 | 16 | 14 | 14 | 18 | 21 | 22 | 22 | 23 | 24 | 24 | 24 | 24 | 24 | 23 | 21 | 21 | 20 | 19 | 18 | 16 | 20 | 24 |
| 10 | 16 | 14 | 13 | 12 | 12 | 11 | 11 | 12 | 16 | 19 | 22 | 23 | 24 | 25 | 25 | 25 | 24 | 23 | 21 | 18 | 17 | 16 | 15 | 14 | 18 | 25 |
| 11 | 13 | 14 | 14 | 12 | 12 | 12 | 12 | 16 | 19 | 22 | 23 | 24 | 24 | 24 | 26 | 26 | 25 | 24 | 22 | 20 | 18 | 17 | 15 | 15 | 19 | 26 |
| 12 | 14 | 13 | 12 | 12 | 10 | 9 | 10 | 13 | 17 | 21 | 23 | 26 | 26 | 26 | 26 | 26 | 25 | 24 | 22 | 20 | 19 | 18 | 16 | 16 | 19 | 26 |
| 13 | 14 | 13 | 12 | 11 | 11 | 9 | 10 | 13 | 17 | 21 | 23 | 26 | 26 | 26 | 26 | 26 | 25 | 24 | 22 | 20 | 19 | 18 | 16 | 16 | 19 | 26 |
| 14 | 16 | 17 | 17 | 17 | 18 | 17 | 15 | 17 | 20 | 21 | 23 | 22 | 19 | 21 | 23 | 23 | 18 | 19 | 18 | 16 | 14 | 15 | 13 | 13 | 18 | 23 |
| 15 | 13 | 12 | 11 | 12 | 11 | 11 | 12 | 14 | 17 | 19 | 21 | 22 | 23 | 23 | 24 | 24 | 24 | 23 | 20 | 18 | 16 | 14 | 13 | 17 | 24 | 24 |
| 16 | 14 | 13 | 13 | 13 | 12 | 11 | 11 | 13 | 16 | 18 | 21 | 22 | 23 | 24 | 24 | 24 | 24 | 23 | 21 | 19 | 18 | 18 | 17 | 16 | 19 | 24 |
| 17 | 17 | 17 | 16 | 16 | 16 | 16 | 16 | 17 | 18 | 20 | 23 | 24 | 25 | 24 | 24 | 24 | 24 | 23 | 21 | 19 | 19 | 18 | 17 | 16 | 20 | 25 |
| 18 | 14 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 17 | 19 | 22 | 23 | 24 | 24 | 24 | 23 | 22 | 23 | 21 | 18 | 18 | 17 | 16 | 16 | 20 | 25 |
| 19 | 17 | 17 | 17 | 16 | 16 | 16 | 16 | 17 | 18 | 19 | 21 | 21 | 21 | 21 | 18 | 18 | 17 | 14 | 19 | 18 | 18 | 17 | 16 | 16 | 19 | 24 |
| 20 | 1 | -2 | -3 | -4 | -5 | -6 | -6 | -4 | -2 | 2 | 4 | 6 | 7 | 8 | 9 | 11 | 11 | 9 | 7 | 6 | 5 | 3 | 3 | 2 | 2 | 11 |
| 21 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 8 | 13 | 15 | 16 | 18 | 18 | 19 | 19 | 18 | 17 | 14 | 13 | 11 | 9 | 9 | 9 | 10 | 19 |
| 22 | 9 | 8 | 8 | 7 | 6 | 5 | 4 | 12 | 14 | 16 | 18 | 20 | 21 | 22 | 22 | 22 | 21 | 19 | 17 | 16 | 16 | 16 | 14 | 14 | 22 | 22 |
| 23 | 14 | 13 | 13 | 12 | 12 | 12 | 13 | 14 | 16 | 16 | 16 | 11 | 14 | 14 | 12 | 12 | 14 | 13 | 12 | 11 | 11 | 11 | 11 | 11 | 13 | 16 |
| 24 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 13 | 15 | 16 | 17 | 17 | 17 | 18 | 17 | 17 | 15 | 14 | 12 | 11 | 11 | 10 | 10 | 13 | 16 |
| 25 | 9 | 9 | 9 | 8 | 8 | 8 | 8 | 9 | 13 | 16 | 18 | 19 | 19 | 19 | 20 | 21 | 21 | 18 | 17 | 16 | 14 | 13 | 12 | 11 | 14 | 21 |
| 26 | 11 | 10 | 11 | 10 | 10 | 11 | 13 | 13 | 15 | 18 | 20 | 21 | 21 | 21 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 13 | 12 | 16 | 22 |
| 27 | 12 | 11 | 9 | 10 | 11 | 11 | 11 | 13 | 14 | 16 | 16 | 18 | 18 | 18 | 18 | 18 | 18 | 17 | 14 | 14 | 14 | 14 | 13 | 13 | 14 | 18 |
| 28 | 13 | 12 | 12 | 11 | 9 | 11 | 11 | 13 | 16 | 17 | 18 | 18 | 19 | 20 | 21 | 21 | 19 | 16 | 15 | 14 | 14 | 14 | 14 | 13 | 15 | 21 |
| 29 | 13 | 13 | 13 | 12 | 12 | 11 | 11 | 13 | 16 | 17 | 18 | 18 | 18 | 18 | 18 | 18 | 17 | 14 | 11 | 9 | 9 | 9 | 9 | 9 | 14 | 18 |
| 30 | 9 | 9 | 9 | 10 | 10 | 10 | 9 | 9 | 8 | 8 | 9 | 10 | 9 | 8 | 9 | 10 | 10 | 9 | 9 | 8 | 8 | 7 | 8 | 9 | 9 | 10 |

MONTHLY MINIMUM = -6

DELTA TEMPERATURE 60-10M
DEGREE C*100

CS-THACT
TRAILER AA23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|------|------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|
| 1 | 183 | 239 | 128 | 183 | 189 | 61 | 78 | 28 | -17 | -122 | -161 | -206 | -222 | -139 | -128 | -167 | -128 | -100 | -44 | -50 | -194 | -11 | -139 | 17 | -30 | 239 | |
| 2 | 122 | 122 | 100 | 89 | 111 | 167 | 144 | 167 | 44 | -94 | -256 | -189 | -172 | -178 | -200 | -178 | -156 | -128 | -89 | -89 | 28 | 56 | 17 | 50 | -21 | 167 | |
| 3 | 17 | 34 | 61 | 117 | 67 | 167 | 156 | 44 | -72 | -133 | -222 | -189 | -222 | -206 | -178 | -167 | -139 | -100 | -11 | 167 | -183 | -94 | -39 | -17 | -45 | 167 | |
| 4 | -33 | 39 | -17 | 61 | 67 | 67 | 33 | -56 | -150 | -233 | -178 | -144 | -211 | -133 | -89 | -167 | -156 | -128 | 72 | 161 | 106 | -89 | -244 | -56 | 167 | | |
| 5 | -244 | 50 | -11 | 156 | 206 | 183 | 278 | 33 | -206 | -156 | -367 | -144 | -183 | -212 | -222 | -183 | -156 | -122 | -478 | -6 | -6 | 22 | 17 | 100 | 72 | 278 | |
| 6 | 156 | 44 | -167 | 83 | 128 | 178 | 83 | 150 | -44 | -717 | -394 | -272 | -172 | -194 | -200 | -167 | -167 | -128 | -167 | -72 | -222 | 83 | 194 | 278 | -71 | 278 | |
| 7 | 206 | 122 | -150 | -89 | -22 | 0 | -6 | 256 | -456 | -317 | -133 | -244 | -500 | -300 | -200 | -183 | -139 | -117 | -44 | -43 | -406 | -533 | -778 | -217 | -225 | 217 | |
| 8 | -228 | -150 | -89 | -22 | 0 | -6 | 6 | -256 | -456 | -317 | -133 | -244 | -500 | -300 | -200 | -183 | -139 | -117 | -44 | -43 | -406 | -533 | -778 | -217 | -225 | 217 | |
| 9 | 159 | 67 | 94 | 111 | 128 | 117 | 178 | 133 | -522 | -361 | -300 | -189 | -272 | -244 | -256 | -317 | -167 | -117 | -72 | 72 | 106 | 61 | -22 | -194 | -76 | 178 | |
| 10 | -11 | -33 | -33 | 33 | 72 | 100 | 56 | -22 | -44 | -111 | -233 | -194 | -239 | -200 | -250 | -172 | -133 | -106 | -117 | -22 | -128 | -144 | 228 | 144 | -65 | 228 | |
| 11 | 94 | 172 | 206 | 167 | 78 | 294 | 200 | 56 | -144 | -133 | -250 | -178 | -184 | -183 | -172 | -206 | -167 | -206 | -194 | -136 | -556 | -150 | 156 | 16 | -61 | 294 | |
| 12 | 133 | 117 | 117 | 239 | 106 | 67 | 17 | -56 | -78 | -134 | -250 | -178 | -184 | -183 | -172 | -206 | -167 | -206 | -194 | -136 | -556 | -150 | 156 | 16 | -61 | 294 | |
| 13 | 172 | 100 | 94 | 106 | 17 | 100 | 106 | 6 | -106 | -134 | -250 | -178 | -184 | -183 | -172 | -206 | -167 | -206 | -194 | -136 | -556 | -150 | 156 | 16 | -61 | 294 | |
| 14 | 133 | 200 | 28 | 39 | -6 | 78 | 33 | -50 | -78 | -134 | -250 | -178 | -184 | -183 | -172 | -206 | -167 | -206 | -194 | -136 | -556 | -150 | 156 | 16 | -61 | 294 | |
| 15 | 117 | 56 | 67 | 139 | 183 | 167 | 194 | 106 | -11 | -144 | -178 | -167 | -206 | -189 | -194 | -172 | -139 | -111 | -11 | 61 | -39 | -44 | -139 | 83 | -24 | 194 | |
| 16 | -244 | 117 | 183 | 239 | 267 | 287 | 300 | 78 | -17 | -117 | -206 | -183 | -194 | -194 | -172 | -172 | -172 | -133 | -178 | 56 | -22 | 150 | 78 | 17 | 9 | 300 | |
| 17 | -17 | -6 | 44 | 56 | 94 | 183 | -183 | -350 | -67 | -144 | -444 | -261 | -283 | -217 | -256 | -89 | -94 | -44 | 11 | 128 | 272 | 228 | 200 | 128 | -46 | 272 | |
| 18 | 111 | 100 | 78 | 72 | 72 | 39 | 28 | -56 | -61 | -83 | -117 | -161 | -200 | -200 | -183 | -267 | -172 | -94 | -67 | -50 | -33 | -11 | 17 | -37 | 44 | | |
| 19 | 19 | 11 | 39 | 33 | 39 | 33 | 44 | 28 | -111 | -72 | -106 | -133 | -172 | -133 | 22 | -72 | -94 | -94 | -67 | -50 | -33 | -11 | 17 | -37 | 44 | | |
| 20 | 39 | 0 | 6 | -28 | -17 | 17 | 39 | -100 | -150 | -178 | -267 | -189 | -161 | -250 | -211 | -211 | -183 | -133 | -22 | 100 | 61 | 156 | 117 | 89 | -62 | 156 | |
| 21 | 178 | 100 | 183 | 150 | 206 | 183 | 56 | 11 | -89 | -167 | -172 | -183 | -178 | -178 | -178 | -200 | -106 | 61 | 267 | 189 | 128 | 100 | 22 | 23 | 267 | | |
| 22 | 172 | 133 | 133 | 172 | 172 | 189 | 161 | 94 | 50 | -100 | -144 | -172 | -217 | -172 | -167 | -178 | -156 | -89 | 83 | 228 | 210 | 200 | 156 | 133 | 39 | 228 | |
| 23 | 150 | 122 | 189 | 172 | 172 | 72 | 28 | -44 | -67 | -83 | -61 | -22 | -83 | -61 | -78 | -100 | -89 | -61 | -11 | 6 | 28 | 56 | 33 | 11 | 11 | 189 | |
| 24 | 0 | 28 | 28 | 33 | 28 | 22 | 33 | 17 | -139 | -133 | -111 | -122 | -111 | -128 | -94 | -61 | -78 | 50 | 33 | 39 | 50 | 67 | 50 | -4 | 211 | | |
| 25 | 78 | 106 | 211 | 106 | 128 | 139 | 139 | 50 | 11 | -128 | -211 | -267 | -183 | -161 | -133 | -128 | -144 | -39 | 44 | 56 | 150 | 78 | -28 | 0 | 13 | 183 | |
| 26 | 122 | 167 | 183 | 156 | 161 | 167 | 100 | 39 | 11 | -50 | -122 | -144 | -156 | -167 | -217 | -133 | -61 | -33 | 44 | 56 | 150 | 78 | -28 | 0 | 13 | 183 | |
| 27 | -17 | -33 | -11 | 72 | 39 | 78 | 22 | -67 | -67 | -83 | -94 | -133 | -172 | -222 | -169 | -178 | -161 | -100 | -72 | 117 | 94 | 128 | 178 | 244 | -26 | 244 | |
| 28 | 239 | 194 | 183 | 278 | 222 | 267 | 267 | 83 | -44 | -156 | -150 | -178 | -156 | -172 | -178 | -178 | -133 | -89 | -78 | 61 | 33 | 6 | 17 | -11 | 14 | 278 | |
| 29 | 22 | 6 | 11 | 39 | 83 | 28 | 33 | -106 | -94 | -150 | -222 | -294 | -144 | -133 | -261 | -300 | -94 | -100 | -56 | -39 | -11 | -11 | -61 | 22 | 94 | -70 | 94 |
| 30 | 61 | 89 | 117 | 100 | 50 | 33 | 11 | -11 | -28 | -44 | -67 | -106 | -172 | -56 | -67 | -83 | -72 | -44 | 11 | -11 | 6 | 28 | 72 | 33 | -2 | 117 | |

MONTHLY MINIMUM = -778

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|------|------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| AV | 75 | 80 | 71 | 114 | 107 | 122 | 93 | -6 | -79 | -156 | -201 | -182 | -194 | -176 | -177 | -174 | -138 | -108 | -89 | 15 | -24 | 14 | 26 | 44 | -39 |
| PK | 244 | 239 | 211 | 278 | 267 | 294 | 300 | 167 | 50 | -44 | -61 | -22 | -50 | 22 | -67 | -83 | -22 | -33 | 83 | 267 | 272 | 228 | 228 | 278 | 300 |
| MIN | -244 | -150 | -167 | -28 | -17 | -6 | -183 | -350 | -522 | -717 | -444 | -294 | -500 | -300 | -261 | -372 | -300 | -467 | -611 | -361 | -556 | -533 | -778 | -244 | |

BAROMETRIC PRESSURE
MILLIBARS

CB-TRACT
TRAILER AB23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1 | 799 | 794 | 794 | 794 | 799 | 800 | 800 | 800 | 800 | 800 | 799 | 799 | 798 | 798 | 798 | 797 | 797 | 797 | 797 | 797 | 798 | 798 | 799 | 800 | 799 | 800 |
| 2 | 799 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 797 | 798 | 797 | 797 | 797 | 797 | 799 |
| 3 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 796 | 795 | 794 | 793 | 792 | 792 | 791 | 791 | 791 | 792 | 794 | 795 | 795 | 794 | 797 |
| 4 | 795 | 794 | 794 | 793 | 793 | 793 | 794 | 794 | 794 | 794 | 793 | 793 | 793 | 793 | 792 | 792 | 792 | 792 | 792 | 793 | 793 | 793 | 793 | 793 | 793 | 795 |
| 5 | 793 | 793 | 793 | 792 | 793 | 793 | 793 | 793 | 794 | 794 | 793 | 793 | 793 | 793 | 792 | 792 | 792 | 792 | 793 | 794 | 795 | 795 | 795 | 796 | 793 | 796 |
| 6 | 795 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 795 | 795 | 795 | 794 | 794 | 795 | 795 | 795 | 795 | 795 | 796 | 797 |
| 7 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 795 | 796 | 795 | 795 | 795 | 794 | 794 | 793 | 792 | 793 | 793 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 796 |
| 8 | 795 | 794 | 794 | 794 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 795 | 795 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 795 | 795 | 795 | 795 | 795 | 796 |
| 9 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 797 | 797 | 797 | 798 |
| 10 | 798 | 799 | 799 | 799 | 799 | 799 | 800 | 800 | 800 | 800 | 800 | 799 | 799 | 798 | 798 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 798 | 799 | 799 | 800 |
| 11 | 799 | 794 | 794 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 798 | 798 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 798 | 798 | 799 | 800 |
| 12 | 798 | 794 | 794 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 798 | 798 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 798 | 798 | 799 | 800 |
| 13 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 798 |
| 14 | 798 | 797 | 797 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 796 | 796 | 798 |
| 15 | 797 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 798 |
| 16 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 795 | 795 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 796 |
| 17 | 794 | 794 | 794 | 794 | 793 | 793 | 794 | 794 | 794 | 794 | 794 | 793 | 793 | 792 | 792 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 792 |
| 18 | 793 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | 794 | 794 | 794 | 793 | 793 | 792 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 792 |
| 19 | 791 | 791 | 791 | 790 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 790 | 790 | 791 | 791 | 792 | 793 | 793 | 793 | 794 | 794 | 794 | 794 | 794 | 794 | 796 |
| 20 | 801 | 801 | 801 | 802 | 803 | 804 | 804 | 804 | 803 | 804 | 803 | 803 | 803 | 802 | 802 | 801 | 801 | 801 | 801 | 802 | 802 | 802 | 802 | 802 | 802 | 804 |
| 21 | 802 | 802 | 802 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 800 | 800 | 799 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 799 | 800 | 802 |
| 22 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 798 | 798 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 799 |
| 23 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 799 |
| 24 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 797 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 798 | 798 | 798 | 799 |
| 25 | 800 | 800 | 800 | 800 | 800 | 800 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 802 |
| 26 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 799 | 799 | 798 | 798 | 797 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 798 |
| 27 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 795 | 795 | 795 | 795 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 796 |
| 28 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 796 |
| 29 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 794 | 794 | 793 | 793 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 794 |
| 30 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | 794 | 794 | 794 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 |

MONTHLY MINIMUM = 790

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AV | 797 | 797 | 797 | 796 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 797 | 796 | 804 |
| PK | 802 | 802 | 802 | 802 | 803 | 803 | 804 | 804 | 803 | 804 | 803 | 803 | 803 | 802 | 802 | 801 | 801 | 801 | 801 | 801 | 801 | 802 | 802 | 802 | 802 | 804 |
| MN | 791 | 791 | 791 | 790 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 790 | 790 | 790 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 |

PRECIPITATION
CM#100

CB-TRACT
TRAILER AB23
SEPT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | TL PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------|
| 1 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 2 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 3 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 4 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 5 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 6 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 7 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 8 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 9 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 10 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 11 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 12 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 13 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 14 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 15 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 16 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 17 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 18 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 19 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 20 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 21 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 22 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 23 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 24 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 25 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 26 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 27 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 28 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 29 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| 30 | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| TL | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|
| PK | (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (| (|

STABILITY CLASS USING DT/UZ
DT 60-10M
WS 10M

CB-TRACT
TRAILER AA23
SEPT 1983
OCCIDENTAL OIL SHALE, INC.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | F | F | F | F | F | F | F | E | E | A | A | B | B | H | B | A | B | B | D | D | B | E | C | E | D |
| 2 | E | F | F | F | F | F | F | F | E | B | H | B | C | D | D | C | D | B | B | F | B | E | E | E | D |
| 3 | D | F | F | F | F | F | F | E | E | A | A | B | B | C | C | C | D | B | B | F | B | E | E | E | D |
| 4 | A | F | F | F | F | F | F | E | D | A | A | B | A | A | A | B | A | A | A | E | E | F | E | R | C |
| 5 | F | F | F | F | F | F | F | E | B | A | B | B | A | C | B | B | B | B | A | E | E | F | F | B | C |
| 6 | F | F | F | F | F | F | F | E | D | A | A | B | B | B | B | B | A | B | A | D | A | F | F | F | D |
| 7 | F | F | F | F | F | F | F | E | B | A | A | B | B | C | C | C | C | D | D | C | D | E | F | F | D |
| 8 | H | F | F | F | F | F | F | E | A | B | H | B | C | C | C | C | B | B | D | C | B | E | E | B | D |
| 9 | F | F | F | F | F | F | F | E | A | A | A | A | B | B | B | B | B | B | D | E | A | A | F | B | C |
| 10 | E | F | F | F | F | F | F | E | D | A | A | A | C | C | B | B | B | B | A | E | A | A | F | F | C |
| 11 | F | F | F | F | F | F | F | E | D | A | A | B | A | A | A | B | B | B | A | A | A | A | F | F | C |
| 12 | F | F | F | F | F | F | F | E | D | A | A | B | B | B | B | B | B | B | A | A | A | A | F | F | C |
| 13 | E | F | F | F | F | F | F | E | D | A | A | C | D | D | C | B | B | B | A | A | E | A | (| F | C |
| 14 | F | F | F | F | F | F | F | E | D | A | A | C | D | D | C | B | B | B | A | A | E | A | (| F | C |
| 15 | F | F | F | F | F | F | F | E | D | A | A | C | D | D | C | B | B | B | A | A | E | A | (| F | C |
| 16 | (| F | F | F | F | F | F | E | D | A | A | C | D | D | C | B | B | B | A | A | E | A | (| F | C |
| 17 | (| F | F | F | F | F | F | E | D | A | A | C | D | D | C | B | B | B | A | A | E | A | (| F | C |
| 18 | (| F | F | F | F | F | F | E | D | A | A | C | D | D | C | B | B | B | A | A | E | A | (| F | C |
| 19 | E | D | D | D | D | D | D | E | A | A | A | B | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 20 | E | E | E | E | E | E | E | A | A | A | A | B | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 21 | (| F | F | F | F | F | F | E | E | B | A | A | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 22 | F | F | F | F | F | F | F | E | E | A | A | A | C | D | C | A | B | B | A | A | E | A | (| F | C |
| 23 | F | F | F | F | F | F | F | E | E | A | A | A | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 24 | F | F | F | F | F | F | F | E | E | A | A | A | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 25 | F | F | F | F | F | F | F | E | E | A | A | A | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 26 | (| F | F | F | F | F | F | E | E | A | A | A | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 27 | F | F | F | F | F | F | F | E | E | A | A | A | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 28 | F | F | F | F | F | F | F | E | E | A | A | A | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 29 | F | F | F | F | F | F | F | E | E | A | A | A | B | B | B | B | B | B | A | A | E | A | (| F | C |
| 30 | F | F | F | F | F | F | F | E | E | A | A | A | B | B | B | B | B | B | A | A | E | A | (| F | C |
| AVE | E | E | E | E | E | E | E | D | D | B | B | B | B | C | B | B | C | C | D | D | D | E | E | E | D |

TOTAL OCCURRENCES: A= 76 H=150 C= 45 0=110 E=174 F=154 HOURS MISSING= 11

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

NITRIC OXIDE (NO)

PERIOD(9/01/83 TO 9/30/83)

1 TRAILER AB23

WIND DIRECTION

| CONCENTRATION
MAX
05/M**3 | N | | NE | | E | | SE | | SSE | | S | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL |
|---------------------------------|---|---|----|---|---|---|----|---|-----|---|---|---|-----|---|----|---|-----|---|---|---|-----|---|----|---|-----|---|------|---|-------|
| | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|----|----|---|----|----|----|----|----|----|-----|-----|----|----|----|----|----|----|-----|---|---|---|---|---|---|---|---|---|---|---|
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LT 5. : | 13 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 122 | 35 | 27 | 45 | 50 | 28 | 11 | 715 | | | | | | | | | | | |
| TOTAL : | 13 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 122 | 35 | 27 | 45 | 50 | 28 | 11 | 715 | | | | | | | | | | | |
| MEAN
CONC. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

OXIDES OF NITROGEN (NOX)

PERIOD(9/01/83 TO 9/30/83)

TRAILER AB23

| CONCENTRATION
MAX
UG/M ³ | N | | | NE | | | E | | | ESE | | | SE | | | WIND DIRECTION
S SSW SW | | | WSW | | | WNW | | | NW | | | NNW | | | CALM | | | TOTAL | | |
|---|----|----|---|----|----|----|----|----|----|-----|-----|----|----|----|----|----------------------------|----|-----|-----|---|---|-----|---|---|----|---|---|-----|---|---|------|---|--|-------|--|--|
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | |
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 5. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| LT 5. : | 13 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 122 | 35 | 27 | 45 | 49 | 28 | 11 | 714 | | | | | | | | | | | | | | | | | | |
| TOTAL : | 13 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 122 | 35 | 27 | 45 | 50 | 28 | 11 | 715 | | | | | | | | | | | | | | | | | | |
| MEAN
CONC. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

NITROGEN DIOXIDE (NO2)

PERIOD(9/01/83 TO 9/30/83)

TRAILER AB23

| CONCENTRATION
MAX
UG/M ³ | N | | | NE | | | E | | | SE | | | WIND DIRECTION | | | W | | | NNW | | | CALM | | | TOTAL |
|---|---|---|---|----|---|---|---|---|---|----|---|---|----------------|---|-----|----|-----|---|-----|----|-----|------|------|-------|-------|
| | 1 | 3 | 1 | 3 | 1 | 3 | 1 | 3 | 1 | 3 | 1 | 3 | SSE | S | SSW | SW | WSW | W | NNW | NW | NNW | CALM | CALM | TOTAL | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | |
|---------|----|----|---|----|----|----|----|----|----|-----|-----|----|----|----|----|----|----|-----|
| LT 5. : | 13 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 122 | 35 | 27 | 45 | 50 | 28 | 11 | 715 |
|---------|----|----|---|----|----|----|----|----|----|-----|-----|----|----|----|----|----|----|-----|

| | | | | | | | | | | | | | | | | | | |
|---------|----|----|---|----|----|----|----|----|----|-----|-----|----|----|----|----|----|----|-----|
| TOTAL : | 13 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 122 | 35 | 27 | 45 | 50 | 28 | 11 | 715 |
|---------|----|----|---|----|----|----|----|----|----|-----|-----|----|----|----|----|----|----|-----|

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MEAN
CONC. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

OZONE (0.3)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(9/01/83 TO 9/30/83)

TRAILER AH23

| CONCENTRATION
MAX
UG/M ³ | WIND DIRECTION | | | | | | | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | |
|---|----------------|----------|---------|----------|-----------|---------|------------|-----------|------------|---------|-----------|----------|-----------|-----------|-------|------|----------------------------|--|--|--|
| | N
84 | NE
80 | E
80 | SE
84 | SSE
84 | S
94 | SSW
101 | SW
115 | WSW
111 | W
88 | WNW
99 | NW
82 | NNW
82 | CALM
0 | TOTAL | | | | | |
| GT 140. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| 130. - 140. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| 120. - 130. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| 110. - 120. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | | | | | |
| 100. - 110. : | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 8 | | | | | |
| 90. - 100. : | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 8 | 3 | 0 | 1 | 0 | 0 | 0 | 18 | | | | | |
| 80. - 90. : | 2 | 2 | 1 | 2 | 4 | 2 | 10 | 7 | 2 | 1 | 1 | 6 | 2 | 0 | 46 | | | | | |
| 70. - 80. : | 1 | 1 | 0 | 1 | 2 | 3 | 6 | 10 | 1 | 1 | 6 | 16 | 6 | 0 | 73 | | | | | |
| 60. - 70. : | 0 | 0 | 1 | 2 | 3 | 8 | 12 | 12 | 2 | 2 | 4 | 3 | 0 | 0 | 70 | | | | | |
| 50. - 60. : | 0 | 2 | 0 | 3 | 1 | 4 | 0 | 3 | 4 | 1 | 2 | 3 | 0 | 0 | 25 | | | | | |
| 40. - 50. : | 2 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 4 | 3 | 2 | 0 | 1 | 17 | | | | | |
| 30. - 40. : | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | | | | | |
| 20. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| LT 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| TOTAL : | 5 | 5 | 1 | 11 | 9 | 14 | 15 | 25 | 42 | 49 | 16 | 9 | 15 | 25 | 264 | | | | | |
| PERCENT | 2. | 2. | 0. | 4. | 3. | 5. | 5. | 6. | 9. | 16. | 19. | 6. | 3. | 6. | 9. | 100. | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

CARBON MONOXIDE (CU)

PERIOD(9/01/83 TO 9/30/83)

TRAILER AB23

| CONCENTRATION
MAX
UG/M ³ | N | | NE | | ENE | | E | | ESE | | SE | | SSE | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL | |
|---|----|----|----|----|-----|----|----|----|-----|-----|-----|----|-----|----|-----|----|----|-----|-----|----|----|----|-----|----|----|----|-----|----|------|----|-------|----|
| | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| GT 1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200. -1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100. -1200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 000. -1100. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400. -1000. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 800. - 900. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 700. - 800. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 600. - 700. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500. - 600. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400. - 500. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300. - 400. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200. - 300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100. - 200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LT 100. : | 13 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 122 | 35 | 27 | 45 | 51 | 28 | 11 | 716 | | | | | | | | | | | | | | |
| TOTAL : | 13 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 122 | 35 | 27 | 45 | 51 | 28 | 11 | 716 | | | | | | | | | | | | | | |
| MEAN
CONC. | 31 | 32 | 35 | 33 | 35 | 34 | 34 | 36 | 38 | 35 | 34 | 35 | 32 | 32 | 29 | 32 | 37 | 34 | | | | | | | | | | | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

SULFUR DIOXIDE (S02)

PERIOD(9/01/83 TO 9/30/83)

TRAILER AH23

| CONCENTRATION
MAX
UG/M ³ | N | | NNE | | NE | | ENE | | E | | ESE | | SE | | SSE | | WIND DIRECTION
SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL |
|---|----|----|-----|----|----|----|-----|----|----|-----|-----|----|----|----|-----|----|-----------------------|-----|----|---|-----|---|----|----|-----|----|----|----|-----|----|------|----|-------|
| | 0 | 2 | 10 | 10 | 13 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 15 | 13 | 13 | 13 | 10 | 5 | 10 | 5 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | |
| GT 13. : | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |
| 12. - 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 11. - 12. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 10. - 11. : | 0 | 0 | 1 | 2 | 2 | 1 | 3 | 4 | 8 | 8 | 6 | 2 | 0 | 1 | 1 | 4 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 4 | 1 | 1 | 44 | |
| 9. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 8. - 9. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 7. - 8. : | 0 | 0 | 2 | 1 | 1 | 3 | 3 | 3 | 14 | 20 | 12 | 5 | 0 | 5 | 2 | 1 | 3 | 75 | | | | | | | | | | | | | | | 75 |
| 6. - 7. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 5. - 6. : | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 8 | 7 | 12 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| 4. - 5. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3. - 4. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2. - 3. : | 0 | 1 | 0 | 1 | 3 | 1 | 0 | 2 | 4 | 4 | 8 | 1 | 2 | 3 | 4 | 0 | 1 | 1 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 |
| 1. - 2. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| LT 1. : | 13 | 14 | 6 | 19 | 13 | 19 | 25 | 23 | 36 | 100 | 88 | 27 | 24 | 36 | 43 | 23 | 6 | 515 | | | | | | | | | | | | | | | |
| TOTAL : | 13 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 122 | 35 | 27 | 45 | 50 | 28 | 11 | 715 | | | | | | | | | | | | | | | |
| MEAN
CONC. | 0 | 0 | 2 | 1 | 2 | 1 | 1 | 2 | 3 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 3 | 2 | | | | | | | | | | | | | | 2 |

0 = NO OBSERVATIONS

CATHEDRAL BLUFFS SHALE OIL

| CONCENTRATION | | WIND DIRECTION | | | | | | | | | | | | TOTAL | | | | | |
|---------------|---------|----------------|-----|----|-----|---|-----|----|-----|---|-----|----|-----|-------|-----|----|-----|------|-------|
| MAX | 1/6/MAX | N | NNE | NE | ENE | E | ESE | SE | SSF | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
| 4 | 4 | 4 | 4 | 1 | 4 | 2 | 4 | 6 | 6 | 6 | 8 | 6 | 5 | 2 | 5 | 6 | 5 | 0 | |

[illegible]MEAN
CONC.

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

10 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(9/01/83 TO 9/30/83)

WIND DIRECTION

| WIND SPEED
MAX
METERS/SEC | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
|---------------------------------|----|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|-----|-------|
| 5 | 4 | 3 | 2 | 3 | 2 | 3 | 4 | 7 | 8 | 8 | 8 | 5 | 7 | 8 | 6 | 0 | | |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 : | 0 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 1 | 0 | 0 | 2 | 0 | 0 | 0 : | 9 |
| 5. - 8. : | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 28 | 32 | 3 | 3 | 10 | 2 | 1 | 0 | 0 : | 89 |
| 3. - 5. : | 1 | 3 | 1 | 0 | 1 | 0 | 2 | 12 | 33 | 48 | 31 | 9 | 4 | 16 | 17 | 5 | 0 : | 183 |
| 1. - 3. : | 6 | 9 | 0 | 11 | 14 | 18 | 16 | 22 | 13 | 46 | 35 | 14 | 13 | 14 | 27 | 15 | 0 : | 273 |
| LT 1. : | 6 | 3 | 8 | 13 | 6 | 7 | 15 | 6 | 17 | 22 | 20 | 8 | 7 | 5 | 4 | 8 | 0 : | 155 |
| TOTAL : | 14 | 15 | 9 | 24 | 21 | 25 | 33 | 40 | 72 | 145 | 123 | 35 | 27 | 45 | 52 | 29 | 0 | 709 |
| PERCENT | 2. | 2. | 1. | 3. | 3. | 4. | 5. | 6. | 10. | 20. | 17. | 5. | 4. | 6. | 7. | 4. | 0. | 100. |

0 = NO OBSERVATIONS

(10/19/83-RPI)

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

30 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(9/01/83 TO 9/30/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW |
| 7 | 5 | 2 | 3 | 5 | 5 | 4 | 4 | 4 | 10 | 12 | 12 | 11 | 8 | 10 | 12 | 9 |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 1 | 0 | 0 | 2 | 0 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 20 | 19 | 2 | 2 | 5 | 1 | 1 |
| 5. - 8. : | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 14 | 24 | 57 | 27 | 4 | 9 | 14 | 9 | 0 |
| 3. - 5. : | 1 | 3 | 0 | 1 | 2 | 8 | 16 | 14 | 20 | 28 | 15 | 11 | 5 | 21 | 16 | 4 |
| 1. - 3. : | 8 | 5 | 2 | 10 | 11 | 13 | 12 | 14 | 13 | 23 | 14 | 11 | 8 | 8 | 23 | 13 |
| LT 1. : | 8 | 6 | 5 | 3 | 3 | 8 | 13 | 7 | 12 | 10 | 10 | 11 | 10 | 6 | 5 | 10 |
| TOTAL : | 20 | 15 | 7 | 14 | 17 | 30 | 41 | 50 | 77 | 142 | 88 | 40 | 34 | 54 | 56 | 28 |
| PERCENT | 3. | 2. | 1. | 2. | 2. | 4. | 6. | 7. | 11. | 20. | 12. | 6. | 5. | 8. | 8. | 4. |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

CATHEDRAL BLUFFS SHALE OIL

60 METER LEVEL

STATION AA23 PERIOD(9/01/83 TO 9/30/83)

WIND DIRECTION

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | | TOTAL | |
|---------------------------------|----------------|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|-------|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| 8 | 6 | 1 | 2 | 6 | 6 | 6 | 6 | 9 | 12 | 13 | 13 | 12 | 8 | 11 | 13 | 10 | 0 | |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 12 | 6 | 1 | 0 | 1 | 2 | 0 | 0 : | 25 |
| 8. - 11. : | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 15 | 28 | 21 | 3 | 5 | 7 | 1 | 1 | 0 : | 85 |
| 5. - 8. : | 1 | 4 | 0 | 0 | 1 | 1 | 1 | 15 | 26 | 53 | 27 | 5 | 5 | 15 | 10 | 2 | 0 : | 166 |
| 3. - 5. : | 2 | 1 | 0 | 0 | 4 | 8 | 15 | 17 | 17 | 22 | 11 | 13 | 6 | 20 | 24 | 6 | 0 : | 166 |
| 1. - 3. : | 12 | 3 | 2 | 5 | 8 | 9 | 13 | 8 | 11 | 19 | 13 | 10 | 12 | 6 | 18 | 15 | 0 : | 164 |
| LT 1. : | 4 | 3 | 3 | 3 | 4 | 5 | 9 | 9 | 9 | 10 | 7 | 12 | 10 | 9 | 12 | 2 | 0 : | 111 |
| TOTAL : | 20 | 11 | 5 | 8 | 17 | 23 | 38 | 52 | 81 | 144 | 85 | 44 | 38 | 58 | 67 | 26 | 0 | 717 |
| PERCENT | 3. | 2. | 1. | 1. | 2. | 3. | 5. | 7. | 11. | 20. | 12. | 6. | 5. | 8. | 9. | 4. | 0. | 100. |

0 = NO OBSERVATIONS

(10/19/83-RPI)

FIVE MAXIMUM SLIDING AVERAGE
UG/M³

C-B TRACT
SITE AR23
SEPT 1983
CATHEDRAL

BLUFFS SHALE OIL CO.

| COMPONENT | AVG. TIME | RANK | DAY | HOUR (REG) | VALUE |
|-----------|-----------|------|-----|------------|-------|
| SO2 | 3 HR | 1 | 26 | 24 | 13.1 |
| | | 2 | 26 | 12 | 12.3 |
| | | 3 | 26 | 7 | 11.3 |
| | | 4 | 27 | 4 | 11.3 |
| | | 5 | 24 | 4 | 10.5 |
| SO2 | 24 HR | 1 | 26 | 7 | 10.5 |
| | | 2 | 23 | 17 | 9.4 |
| | | 3 | 25 | 1 | 9.1 |
| | | 4 | 27 | 7 | 7.9 |
| | | 5 | 28 | 7 | 6.1 |
| CO | 1 HR | 1 | 22 | 8 | 50.0 |
| | | 2 | 23 | 9 | 50.0 |
| | | 3 | 23 | 3 | 50.0 |
| | | 4 | 3 | 5 | 50.0 |
| | | 5 | 3 | 6 | 50.0 |
| CO | 8 HR | 1 | 14 | 24 | 50.0 |
| | | 2 | 18 | 22 | 50.0 |
| | | 3 | 19 | 2 | 50.0 |
| | | 4 | 24 | 2 | 50.0 |
| | | 5 | 24 | 10 | 50.0 |
| O3 | 1 HR | 1 | 3 | 14 | 15.8 |
| | | 2 | 3 | 15 | 13.8 |
| | | 3 | 2 | 16 | 11.8 |
| | | 4 | 2 | 17 | 11.8 |
| | | 5 | 3 | 16 | 11.8 |
| PART | 24 HR | 1 | 19 | 1 | 46.9 |
| | | 2 | 11 | 1 | 34.7 |
| | | 3 | 15 | 1 | 24.6 |
| | | 4 | 7 | 1 | 22.6 |
| | | 5 | 3 | 1 | 22.4 |

DATA ACQUISITION INSTRUMENT EFFICIENCY
CATHEDRAL BLUFFS SHALE OIL COMPANY
A.Q. TRAILER AB23

SEPTEMBER 1983

GASEOUS
PARAMETERS

NOX: 100 %

NO: 100

NO2: 100

O3: 37

CO: 100

SO2: 100

H2S: 100

PARTICULATES: 100 %

METEOROLOGICAL
PARAMETERS

WIND SPEED

| | |
|-------|-------|
| 10 M: | 100 % |
| 30 M: | 100 |
| 60 M: | 100 |

WIND DIRECTION

| | |
|-------|-----|
| 10 M: | 100 |
| 30 M: | 100 |
| 60 M: | 100 |

SIGMA HORIZONTAL
WIND DIRECTION

| | |
|-------|-----|
| 10 M: | 100 |
| 30 M: | 100 |
| 60 M: | 100 |

TEMPERATURE

| | |
|-------|-----|
| 10 M: | 100 |
| 30 M: | 100 |
| 60 M: | 100 |

DELTA TEMPERATURE: 100

RELATIVE HUMIDITY: 100

SOLAR RADIATION: 100

BAROMETRIC PRESSURE: 100

PRECIPITATION: 100

OCTOBER

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NITRIC OXIDE
(UG/M3)

CB-TRACT
TRAILER A823
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | AVE PEAK |
|-----|----------------------------|---|---|---|---|---|---|------|------|------|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |
| 2 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 2 | 1 |
| 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 |
| 4 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 1 |
| 5 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 6 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 7 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 8 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 9 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 10 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | (CA) | (CA) | (CA) | (CA) | (CA) | 2 | 2 | 1 | 2 | 2 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 1 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 12 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | (CA) | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 1 |
| 14 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 |
| 15 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 16 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| 17 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| 18 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 19 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 20 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 21 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 22 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 23 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 24 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 26 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (CA) | (CA) | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| AV | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| PK | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 2 |

OXIDES OF NITROGEN
(UG/43)

CR-TRACT
TRAILER AH23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | 21 | 22 | 23 | 24 | AVG | PEAK | | | | | | | | |
|-----|----------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|-----|------|----|----|----|----|----|----|-----|------|
| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVG | PEAK |
| 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 9 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 10 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 11 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 12 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 13 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 14 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 15 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 16 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 17 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 18 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 19 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 22 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 23 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 26 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 27 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 28 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 29 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 30 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 31 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| AVG | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| PK | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

NITROGEN DIOXIDE
(UG/M3)

CR-TRACT
TRAILER AB23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | AVG PEAK |
|-----|----------------------------|---|---|---|---|---|---|---|------|------|------|------|------|----|----|----|----|----|----|----|----|----|----|----|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 1 |
| 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| 5 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 0 | 1 |
| 6 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7 | 4 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8 | 4 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9 | 0 | 2 | 4 | 2 | 2 | 2 | 2 | 2 | (CA) | (CA) | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | (CA) | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 1 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 1 |
| 15 | 4 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 1 |
| 16 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 17 | 2 | 4 | 2 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 2 | 1 |
| 18 | 4 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 0 | 6 | 4 | 0 | 2 | 2 | 0 | 1 |
| 19 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 4 | 0 | 2 | 6 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 1 |
| 20 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 0 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 1 |
| 21 | 2 | 0 | 2 | 2 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 1 |
| 22 | 0 | 0 | 0 | 2 | 0 | 4 | 2 | 2 | 0 | 2 | 0 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 2 | 2 | 2 | 3 |
| 23 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 0 | 0 | 6 | 6 | (CA) | 6 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 4 | 2 | 4 | 3 |
| 24 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 9 | 4 | 4 | 4 | 2 | 2 | 2 | 4 | 2 | 2 | 2 | 2 | 4 | 2 | 4 | 3 |
| 25 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 26 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 27 | 2 | 4 | 4 | 2 | 4 | 2 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 28 | 4 | 4 | 4 | 2 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 29 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 30 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 31 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 6 | (CA) | 6 | (CA) | (CA) | 6 | 6 | 2 | 4 | 2 | 2 | 2 | 2 | 4 | 2 | 2 | 2 | 3 |
| AV | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 |
| PK | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 4 | 9 | 6 | 6 | 6 | 6 | 4 | 4 | 8 | 9 | 6 | 6 | 4 | 4 | 4 | 4 | 9 |

OTONE
(UG/W3)

CB-TRACT
TRAILER AB23
OCT 1983
CATHORAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|
| 1 | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | () | () |
| 2 | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | () | () |
| 3 | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | () | () |
| 4 | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | () | () |
| 5 | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | (IM) | () | () |
| 6 | 43 | 47 | 45 | 47 | 49 | 55 | 51 | 51 | 53 | 59 | 63 | 63 | 63 | 61 | 78 | 59 | 55 | 49 | 45 | 41 | 45 | 41 | 45 | 41 | 54 | 74 |
| 7 | 55 | 57 | 51 | 49 | 51 | 55 | 51 | 49 | 51 | 59 | 63 | 63 | 63 | 63 | 61 | 69 | 61 | 57 | 57 | 57 | 57 | 55 | 55 | 55 | 54 | 63 |
| 8 | 45 | 51 | 45 | 47 | 49 | 51 | 51 | 49 | 45 | 53 | 63 | 63 | 63 | 63 | 57 | 53 | 57 | 49 | 41 | 51 | 43 | 43 | 51 | 49 | 53 | 65 |
| 9 | 49 | 53 | 53 | 51 | 51 | 49 | 51 | 49 | 51 | 59 | 59 | 57 | 57 | 59 | 59 | 59 | 57 | 53 | 49 | 51 | 53 | 51 | 57 | 55 | 53 | 73 |
| 10 | 53 | 55 | 51 | 49 | 44 | 43 | 43 | 45 | 55 | 71 | 71 | 76 | 76 | 74 | 71 | 69 | 69 | 67 | 65 | 57 | 55 | 59 | 51 | 55 | 54 | 59 |
| 11 | 41 | 37 | 39 | 45 | 41 | 41 | 41 | 37 | 42 | 53 | 57 | 57 | 61 | 65 | 67 | 67 | 65 | 63 | 63 | 59 | 59 | 51 | 51 | 57 | 53 | 67 |
| 12 | 53 | 55 | 54 | 57 | 63 | 61 | 59 | 55 | 69 | (CA) | 69 | 69 | 74 | 73 | 71 | 69 | 69 | 67 | 61 | 59 | 61 | 61 | 61 | 65 | 65 | 74 |
| 13 | 65 | 67 | 63 | 61 | 59 | 57 | 59 | 55 | 67 | 73 | 73 | 69 | 69 | 69 | 65 | 65 | 69 | 67 | 65 | 67 | 65 | 63 | 51 | 61 | 61 | 64 |
| 14 | 57 | 65 | 65 | 57 | 61 | 65 | 63 | 65 | 67 | 73 | 69 | 69 | 71 | 71 | 73 | 76 | 73 | 67 | 67 | 63 | 53 | 47 | 41 | 33 | 55 | 60 |
| 15 | 41 | 37 | 47 | 51 | 57 | 53 | 53 | 51 | 67 | 69 | 69 | 71 | 73 | 73 | 71 | 69 | 69 | 65 | 63 | 65 | 69 | 67 | 69 | 67 | 61 | 74 |
| 16 | 57 | 61 | 53 | 59 | 55 | 55 | 57 | 51 | 53 | 63 | 71 | 73 | 73 | 71 | 71 | 78 | 78 | 74 | 71 | 67 | 67 | 69 | 69 | 69 | 69 | 78 |
| 17 | 63 | 69 | 65 | 61 | 63 | 57 | 55 | 51 | 57 | 65 | 74 | 76 | 78 | 78 | 78 | 78 | 78 | 74 | 71 | 67 | 67 | 69 | 69 | 69 | 69 | 74 |
| 18 | 63 | 59 | 63 | 69 | 69 | 59 | 55 | 53 | 53 | 63 | 67 | 69 | 69 | 69 | 71 | 73 | 71 | 67 | 63 | 61 | 63 | 61 | 63 | 63 | 64 | 74 |
| 19 | 59 | 65 | 59 | 57 | 51 | 47 | 49 | 47 | 59 | 67 | 71 | 76 | 80 | 82 | 80 | 80 | 80 | 80 | 74 | 65 | 63 | 63 | 63 | 67 | 65 | 74 |
| 20 | 63 | 67 | 63 | 67 | 69 | 69 | 67 | 61 | 59 | 71 | 73 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 74 | 65 | 67 | 74 | 76 | 78 | 73 | 74 |
| 21 | 71 | 74 | 71 | 73 | 74 | 76 | 74 | 71 | 65 | 69 | 82 | 84 | 82 | 84 | 80 | 80 | 78 | 76 | 65 | 69 | 73 | 71 | 71 | 73 | 74 | 80 |
| 22 | 67 | 74 | 71 | 74 | 74 | 74 | 74 | 73 | 65 | 65 | 76 | 80 | 78 | 76 | 76 | 76 | 74 | 69 | 69 | 69 | 73 | 71 | 73 | 74 | 72 | 80 |
| 23 | 74 | 78 | 74 | 74 | 74 | 74 | 74 | 73 | 74 | 73 | 80 | 80 | 78 | 78 | 80 | 80 | 80 | 78 | 80 | 78 | 76 | 76 | 76 | 74 | 72 | 80 |
| 24 | 65 | 63 | 53 | 51 | 53 | 43 | 45 | 41 | 45 | 53 | 55 | 61 | 63 | 65 | 65 | 65 | 63 | 63 | 67 | 63 | 61 | 59 | 59 | 57 | 57 | 67 |
| 25 | 51 | 53 | 51 | 59 | 53 | 49 | 53 | 45 | 39 | 53 | 61 | 67 | (CA) | 73 | 80 | 76 | 69 | 65 | 57 | 57 | 63 | 63 | 63 | 63 | 63 | 67 |
| 26 | 53 | 61 | 63 | 61 | 61 | 63 | 61 | 61 | 59 | 55 | 67 | 67 | (CA) | 74 | 74 | 76 | 71 | 63 | 57 | 61 | 63 | 65 | 67 | 67 | 64 | 76 |
| 27 | 67 | 73 | 73 | 73 | 73 | 73 | 71 | 65 | 63 | 69 | 78 | 80 | 80 | 80 | 82 | 82 | 73 | 74 | 67 | 67 | 73 | 71 | 73 | 76 | 73 | 74 |
| 28 | 71 | 74 | 73 | 73 | 73 | 71 | 71 | 69 | 67 | 74 | 78 | 82 | 88 | 88 | 88 | 86 | 84 | 80 | 74 | 69 | 69 | 73 | 76 | 78 | 76 | 80 |
| 29 | 80 | 74 | 78 | 78 | 80 | 80 | 78 | 71 | 69 | 78 | 84 | 88 | 88 | 88 | 88 | 86 | 76 | 74 | 78 | 78 | 76 | 78 | 76 | 78 | 80 | 88 |
| 30 | 74 | 82 | 86 | 83 | 82 | 82 | 84 | 78 | 76 | 73 | 82 | 86 | 82 | 82 | 86 | 82 | 80 | 80 | 80 | 78 | 76 | 76 | 76 | 71 | 81 | 88 |
| 31 | 71 | 74 | 74 | 73 | 71 | 67 | 63 | 61 | 59 | 57 | 65 | 69 | (CA) | (CA) | 69 | 65 | 63 | 61 | 53 | 49 | 45 | 47 | 55 | 57 | 62 | 74 |

CARBON MONOXIDE
(UG/M3)

CR-TRACT
TRAILER AB23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | AVE | PEAK |
|-----|----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 50 | 60 | 60 | 60 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 60 | 60 | 49 | 60 |
| 2 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 44 | 50 |
| 3 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 44 | 50 |
| 4 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 44 | 50 |
| 5 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 45 | 60 |
| 6 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 45 | 60 |
| 7 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 43 | 50 |
| 8 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 43 | 50 |
| 9 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 46 | 50 |
| 10 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 46 | 50 |
| 11 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 41 | 50 |
| 12 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 20 | 10 | 0 | 10 | 10 | 10 | 0 | 10 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 27 | 50 |
| 13 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 23 | 50 |
| 14 | 30 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 46 | 50 |
| 15 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 46 | 50 |
| 16 | 50 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 50 |
| 17 | 50 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 35 | 50 |
| 18 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 43 | 50 |
| 19 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 35 | 50 |
| 20 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 35 | 50 |
| 21 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 34 | 30 |
| 22 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 34 | 30 |
| 23 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 34 | 30 |
| 24 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 34 | 30 |
| 25 | 50 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 40 | 50 |
| 26 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 40 | 50 |
| 27 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 34 | 30 |
| 28 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 34 | 30 |
| 29 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 37 | 50 |
| 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 43 | 50 |
| 31 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 51 | 60 |
| AV | 41 | 60 | 40 | 40 | 40 | 40 | 40 | 42 | 39 | 38 | 38 | 39 | 39 | 38 | 39 | 39 | 39 | 40 | 41 | 40 | 40 | 41 | 41 | 40 | 40 | 60 |
| PK | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 50 | 60 | 60 | 60 | 50 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |

SULFUR DIOXIDE
(UG/H3)

CH-TRACT
TRAILER AB23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | AVF PEAK |
|-----|----------------------------|----|----|----|----|----|----|----|------|------|------|------|------|----|----|----|----|----|----|----|----|----|----|----|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1 | 10 | 5 | 4 | 4 | 5 | 5 | 5 | 8 | 5 | 8 | 5 | 8 | 8 | 8 | 5 | 5 | 8 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 6 |
| 2 | 5 | 5 | 5 | 3 | 4 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 5 | 3 | 3 | 0 | 5 | 3 | 3 | 3 | 5 |
| 3 | 3 | 3 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 0 | 0 | 0 | 0 | 5 |
| 4 | 0 | 3 | 0 | 0 | 3 | 3 | 0 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 0 | 5 | 3 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 5 |
| 5 | 3 | 3 | 5 | 0 | 5 | 3 | 5 | 3 | 5 | 5 | 8 | 5 | 5 | 5 | 3 | 5 | 3 | 5 | 5 | 5 | 3 | 5 | 3 | 3 | 4 |
| 6 | 0 | 3 | 5 | 5 | 3 | 0 | 5 | 0 | 3 | 5 | 3 | 3 | 5 | 5 | 0 | 3 | 3 | 5 | 3 | 3 | 3 | 3 | 0 | 3 | 4 |
| 7 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 3 | 5 | 3 | 3 | 3 | 5 | 3 | 3 | 5 |
| 8 | 3 | 3 | 5 | 5 | 4 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 8 | 5 | 5 | 5 | 5 | 5 | 8 | 5 | 5 | 5 | 5 | 5 | 5 |
| 9 | 5 | 5 | 3 | 5 | 5 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 3 | 3 | 5 | 5 | 5 | 4 |
| 10 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 3 | 3 | 5 | 5 | 5 | 4 |
| 11 | 5 | 5 | 5 | 5 | 5 | 10 | 10 | 8 | (CA) | (CA) | (CA) | (CA) | 8 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 |
| 12 | 10 | 10 | 8 | 10 | 10 | 10 | 8 | 10 | 13 | 10 | 13 | 10 | 10 | 10 | 10 | 8 | 8 | 5 | 8 | 8 | 8 | 8 | 8 | 8 | 13 |
| 13 | 5 | 4 | 10 | 8 | 10 | 10 | 8 | 13 | 13 | 13 | 13 | 10 | 16 | 10 | 8 | 8 | 8 | 10 | 5 | 8 | 8 | 8 | 3 | 5 | 10 |
| 14 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 13 |
| 15 | 5 | 0 | 0 | 3 | 3 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 5 | 3 | 0 | 5 |
| 16 | 5 | 3 | 3 | 5 | 3 | 5 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 3 | 3 | 5 | 5 | 5 | 4 |
| 17 | 3 | 3 | 3 | 5 | 3 | 5 | 3 | 5 | 5 | 5 | 3 | 3 | 3 | 5 | 5 | 3 | 5 | 5 | 5 | 3 | 3 | 5 | 3 | 3 | 4 |
| 18 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 8 | 8 | 8 | 10 | 8 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 5 |
| 19 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 5 | 5 | 3 | 3 | 3 | 3 | 5 |
| 20 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 0 | 3 | 8 | 5 | 0 | 5 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 0 | 3 | 3 | 5 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 5 |
| 22 | 0 | 0 | 3 | 3 | 0 | 3 | 3 | 3 | 5 | 3 | 3 | 5 | 3 | 3 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 3 | 2 |
| 23 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 24 | 3 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 3 | 3 | 3 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 1 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 3 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 0 | 0 | 0 | 2 |
| 26 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | (CA) | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 27 | 3 | 3 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 3 | 3 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 5 |
| 28 | 3 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 5 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 5 | 3 | 3 | 3 | 3 | 3 | 5 |
| 29 | 0 | 0 | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 2 |
| 30 | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 8 | 3 | 3 | 3 | 5 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 1 |
| 31 | 3 | 0 | 0 | 3 | 0 | 5 | 0 | 3 | 3 | 0 | (CA) | (CA) | 5 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 |
| AV | 3 | 3 | 4 | 3 | 4 | 4 | 3 | 4 | 5 | 5 | 6 | 5 | 5 | 5 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4 |
| PK | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 13 | 13 | 13 | 13 | 10 | 16 | 10 | 10 | 8 | 8 | 10 | 8 | 8 | 8 | 8 | 8 | 8 | 16 |

HYDROGEN SULFIDE
(UG/M³)

CH-TRACT
TRAILER AB23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVT | PEAK | |
|-----|---|---|----|----|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|----|
| 1 | 4 | 4 | 4 | 3 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 3 | 4 | 3 | 3 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 4 |
| 2 | 4 | 4 | 10 | 16 | 4 | 8 | 7 | 7 | 10 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 8 | 8 | 8 | 8 | 8 | 7 | 10 |
| 3 | 4 | 1 | 3 | 3 | 3 | 3 | 1 | 1 | 3 | 1 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 10 |
| 4 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 3 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 1 | 1 | 0 | 0 | 2 | 6 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| 15 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| 16 | 3 | 4 | 3 | 3 | 3 | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 4 |
| 17 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| 18 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| 19 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 20 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 21 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 22 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | 3 |
| 23 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 |
| 24 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---|----|----|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| AV | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| PK | 4 | 4 | 10 | 10 | 4 | 4 | 7 | 4 | 10 | 8 | 8 | 7 | 8 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 10 |

PARTICULATE DATA
UG/M3

C-B TRACT
OCT 1983
OCCIDENTAL OIL SHALE, INC.

| DAY | AB20 | AB23 | STATION
AR26 | AD42 | AD56 |
|------|------|------|-----------------|------|------|
| 1 | () | 11.5 | () | () | () |
| 9 | () | 6.4 | () | () | () |
| 13 | () | 12.3 | () | () | () |
| 17 | () | 8.8 | () | () | () |
| 21 | () | 7 | () | () | () |
| 25 | () | 5.9 | () | () | () |
| 29 | () | 18.3 | () | () | () |
| AVE | () | 10 | () | () | () |
| GM | () | 9.3 | () | () | () |
| PEAK | () | 18.3 | () | () | () |

WIND SPEED @ 10M
METERS/SEC

CH-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

WIND (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PFK | |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|-----|-----|----|
| 1 | 4 | 3 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 2 | 3 | 0 | 2 | 4 | 10 | 9 | 8 | 7 | 6 | 4 | 3 | 2 | 1 | 1 | 4 | 10 | |
| 2 | 3 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 5 | 6 | 3 | 5 | 4 | 4 | 2 | 2 | 0 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 3 | 6 | |
| 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | (CM) | 2 | 1 | 3 | 0 | 2 | 2 | 2 | 1 | 3 | |
| 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 3 | |
| 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 17 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 18 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 19 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 20 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 22 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 23 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 24 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 25 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 26 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 29 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 30 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| 31 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1 | 1 | 1 | 3 | |
| AV | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 10 | |
| PK | 6 | 1 | 1 | 5 | 4 | 4 | 1 | 4 | 5 | 6 | 6 | 6 | 9 | 8 | 10 | 9 | 8 | 7 | 6 | 4 | 3 | 5 | 5 | 6 | 6 | 2 | 10 |

WIND SPEED IN 10M
METERS/SEC

CH-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | % | AVE DEAN | | |
|-----|----|----|---|---|---|---|------|---|---|----|----|----|----|----|------|----|----|----|----|----|----|----|----|---|----------|----|---|
| 1 | 5 | 4 | 3 | 2 | 3 | 5 | 2 | 3 | 0 | 3 | 4 | 8 | 12 | 12 | 13 | 13 | 11 | 2 | 2 | 5 | 4 | 4 | 2 | 1 | 6 | 14 | |
| 2 | 4 | 5 | 1 | 2 | 2 | 4 | 1 | 1 | 2 | 4 | 2 | 7 | 3 | 5 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 0 | 1 | 1 | 3 | 5 | |
| 3 | 3 | 1 | 1 | 2 | 0 | 0 | 3 | 7 | 8 | 8 | 0 | 1 | 7 | 6 | 5 | 3 | 0 | 3 | 6 | 2 | 6 | 1 | 3 | 2 | 4 | 6 | |
| 4 | 3 | 1 | 1 | 2 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 1 | 2 | 3 | 3 | 1 | 0 | 2 | 3 | 2 | 1 | 1 | 1 | 2 | 4 | 6 | |
| 5 | 5 | 1 | 1 | 1 | 1 | 3 | 0 | 2 | 0 | 0 | 1 | 1 | 2 | 3 | 4 | 4 | 8 | 4 | 3 | 1 | 0 | 0 | 1 | 0 | 4 | 6 | |
| 6 | 6 | 1 | 1 | 1 | 1 | 3 | 0 | 1 | 1 | 5 | 6 | 7 | 9 | 8 | 8 | 8 | 7 | 8 | 3 | 2 | 3 | 2 | 2 | 5 | 4 | 6 | |
| 7 | 5 | 0 | 0 | 2 | 0 | 4 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 1 | 4 | 8 | 10 | 6 | |
| 8 | 5 | 0 | 0 | 0 | 0 | 4 | 4 | 3 | 4 | 1 | 4 | 6 | 2 | 2 | 4 | 4 | 4 | 3 | 3 | 1 | 1 | 0 | 0 | 0 | 4 | 10 | 6 |
| 9 | 3 | 10 | 9 | 4 | 6 | 4 | 4 | 3 | 4 | 1 | 4 | 6 | 2 | 2 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 1 | 0 | 0 | 4 | 10 | 6 |
| 10 | 9 | 10 | 9 | 4 | 6 | 4 | 4 | 3 | 4 | 1 | 4 | 6 | 2 | 2 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 1 | 0 | 0 | 4 | 10 | 6 |
| 11 | 11 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 2 | 3 | 4 | 4 | 3 | 3 | 1 | 2 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 4 | 10 | 6 |
| 12 | 11 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 2 | 3 | 4 | 4 | 3 | 3 | 1 | 2 | 2 | 3 | 3 | 1 | 1 | 0 | 0 | 4 | 10 | 6 |
| 13 | 14 | 2 | 1 | 1 | 3 | 5 | 3 | 3 | 1 | 3 | 6 | 8 | 6 | 7 | 6 | 7 | 7 | 4 | 3 | 3 | 2 | 1 | 2 | 1 | 4 | 10 | 6 |
| 14 | 5 | 2 | 1 | 1 | 3 | 5 | 7 | 4 | 7 | 6 | 6 | 7 | 9 | 9 | 7 | 7 | 4 | 4 | 3 | 3 | 1 | 1 | 2 | 1 | 4 | 10 | 6 |
| 15 | 17 | 0 | 1 | 1 | 4 | 4 | 2 | 3 | 4 | 3 | 4 | 3 | 2 | 2 | (CM) | 1 | 5 | 4 | 3 | 3 | 3 | 4 | 1 | 1 | 3 | 10 | 6 |
| 16 | 17 | 0 | 1 | 1 | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 4 | 6 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 6 | 4 | 10 | 6 |
| 17 | 17 | 1 | 2 | 1 | 5 | 3 | 0 | 1 | 2 | 5 | 1 | 6 | 5 | 4 | 4 | 4 | 5 | 4 | 6 | 4 | 4 | 5 | 4 | 3 | 4 | 10 | 6 |
| 18 | 14 | 4 | 1 | 1 | 5 | 3 | (CM) | 1 | 1 | 2 | 1 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 6 | 4 | 4 | 3 | 3 | 6 | 4 | 10 | 6 |
| 19 | 13 | 4 | 1 | 1 | 1 | 3 | 0 | 0 | 1 | 2 | 1 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 6 | 4 | 4 | 3 | 3 | 6 | 4 | 10 | 6 |
| 20 | 20 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 6 | 4 | 4 | 3 | 3 | 6 | 4 | 10 | 6 |
| 21 | 21 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 6 | 4 | 4 | 3 | 3 | 6 | 4 | 10 | 6 |
| 22 | 21 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 6 | 4 | 4 | 3 | 3 | 6 | 4 | 10 | 6 |
| 23 | 21 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 6 | 4 | 4 | 3 | 3 | 6 | 4 | 10 | 6 |
| 24 | 22 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 6 | 4 | 4 | 3 | 3 | 6 | 4 | 10 | 6 |
| 25 | 23 | 2 | 1 | 3 | 2 | 3 | 4 | 4 | 1 | 6 | 5 | 5 | 6 | 6 | 4 | 4 | 5 | 4 | 6 | 4 | 4 | 3 | 3 | 6 | 4 | 10 | 6 |
| 26 | 25 | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 4 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 0 | 0 | 1 | 3 | 5 | 4 |
| 27 | 26 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 4 | 5 | 4 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 5 | 4 |
| 28 | 27 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 3 | 3 | 4 | 5 | 4 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 5 | 4 |
| 29 | 28 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 0 | 1 | 1 | 2 | 3 | 3 | 4 | 5 | 4 | 3 | 2 | 0 | 0 | 1 | 1 | 0 | 2 | 5 | 4 |
| 30 | 30 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 3 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 1 | 1 | 1 | 0 | 2 | 5 | 4 |
| 31 | 31 | 1 | 2 | 5 | 1 | 2 | 1 | 2 | 2 | 2 | 7 | 6 | 7 | 7 | 6 | 6 | 5 | 5 | 3 | 2 | 1 | 0 | 3 | 4 | 3 | 7 | 7 |
| AVG | 27 | 10 | 7 | 2 | 7 | 5 | 2 | 7 | 2 | 3 | 3 | 4 | 12 | 12 | 13 | 4 | 4 | 3 | 9 | 3 | 4 | 2 | 2 | 2 | 3 | 13 | |

WIND SPEED * 60M
METERS/SEC

CR-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

WIND (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|----|----|----|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|----|
| 1 | 5 | 7 | 4 | 3 | 2 | 5 | 3 | 3 | 1 | 4 | 5 | 9 | 13 | 12 | 14 | 13 | 12 | 10 | 10 | 6 | 5 | 4 | 3 | 2 | 1 | 14 | |
| 2 | 5 | 2 | 5 | 3 | 4 | 5 | 1 | 4 | 9 | 9 | 3 | 1 | 1 | 5 | 6 | 3 | 4 | 3 | 3 | 2 | 2 | 1 | 3 | 3 | 3 | 1 | 7 |
| 3 | 4 | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 2 | 7 | 6 | 2 | 0 | 2 | 7 | 2 | 3 | 2 | 2 | 2 | 3 | 5 | 4 |
| 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 3 | 4 | 4 | 4 | 8 | 8 | 0 | 1 | 1 | 2 | 2 | 4 |
| 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 10 | 4 | 7 | 0 | 3 | 2 | 2 | 2 | 2 | 7 | 4 |
| 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 5 | 6 | 7 | 10 | 6 | 10 | |
| 7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 1 | 1 | 1 | 2 | 2 | 4 | 4 |
| 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 17 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 18 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 19 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 20 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 22 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 23 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 24 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 25 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 26 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 29 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 30 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| 31 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 11 |
| AV | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 14 |
| PK | 11 | 11 | 11 | 9 | 4 | 7 | 4 | 4 | 9 | 9 | 4 | 4 | 13 | 12 | 14 | 13 | 12 | 10 | 10 | 9 | 7 | 3 | 9 | 10 | 3 | 14 | |

WIND DIRECTION ~ 104
OF GREENS

CS-TRACT
TRAILER AA23
OCT 1943
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|------|-----|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|------|------|-----|-----|
| PREV | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 179 | 195 | 171 | 97 | 104 | 186 | 164 | 106 | 159 | 163 | 183 | 179 | 200 | 191 | 192 | 190 | 188 | 190 | 194 | 209 | 207 | 248 | 295 | 326 |
| 2 | 207 | 207 | 202 | 215 | 193 | 195 | 50 | 65 | 278 | 324 | 287 | 348 | 312 | 246 | 272 | 155 | 141 | 143 | 137 | 102 | 125 | 67 | 127 | 93 |
| 3 | 204 | 94 | 106 | 103 | 190 | 153 | 187 | 204 | 204 | 224 | 224 | 248 | 240 | 219 | 267 | 237 | 309 | 247 | 207 | 196 | (CM) | 11 | 227 | 235 |
| 4 | 263 | 219 | 110 | 193 | 112 | 225 | 117 | 114 | 68 | 47 | 279 | 345 | 9 | 118 | 62 | 105 | (CM) | 204 | 201 | 205 | 79 | 46 | 90 | 96 |
| 5 | 127 | 143 | 152 | 153 | 151 | 154 | 116 | 99 | 68 | 24 | 249 | 305 | 224 | 258 | 262 | 237 | 233 | 291 | 246 | 249 | 216 | 253 | 145 | 203 |
| 6 | 251 | 109 | 203 | 146 | 145 | 232 | 185 | 122 | 61 | 14 | 351 | 6 | 296 | 245 | 269 | 270 | 241 | 230 | 202 | 201 | 39 | 361 | 99 | 111 |
| 7 | 124 | 144 | 104 | 105 | 117 | 124 | 109 | 83 | 65 | 297 | 0 | 298 | 161 | 135 | 189 | 161 | 191 | 216 | 142 | 173 | 210 | 11 | 196 | 205 |
| 8 | (CM) | 225 | 232 | 199 | 270 | 214 | 265 | 53 | 82 | 225 | 217 | 222 | 216 | 220 | 221 | 222 | 221 | 222 | 220 | 202 | 156 | 130 | 101 | 169 |
| 9 | 94 | 122 | 117 | 166 | 144 | 153 | 135 | 146 | 285 | 217 | 325 | 239 | 156 | 223 | 307 | 325 | 299 | 261 | 235 | 138 | 181 | 169 | 102 | 78 |
| 10 | 173 | 180 | 180 | 174 | 193 | 274 | 269 | 257 | 7 | 33 | 16 | 34 | 111 | 107 | 33 | 344 | 358 | 19 | 66 | 161 | 197 | 191 | 315 | 229 |
| 11 | 212 | 249 | 204 | 135 | 224 | 175 | 219 | 174 | 59 | 6 | 324 | 343 | 328 | 343 | 346 | 4 | 339 | 320 | 180 | 141 | 180 | 204 | 166 | 145 |
| 12 | 212 | 299 | 170 | 155 | 174 | 201 | 209 | 107 | 97 | 70 | 208 | 207 | 212 | 222 | 215 | 194 | 211 | 218 | 269 | 240 | 157 | 90 | 147 | 187 |
| 13 | 135 | 144 | 124 | 113 | 95 | 109 | 107 | 97 | 210 | 261 | 221 | 256 | 212 | 214 | 201 | 201 | 218 | 269 | 240 | 157 | 90 | 147 | 193 | 187 |
| 14 | 120 | 114 | 53 | 35 | 156 | 208 | 216 | 215 | 210 | 226 | 281 | 301 | 306 | 322 | 315 | 275 | 266 | 265 | 213 | 161 | 144 | 157 | 200 | 186 |
| 15 | 219 | 220 | 204 | 202 | 196 | 207 | 203 | 204 | 211 | 226 | 281 | 301 | 306 | 322 | 315 | 275 | 266 | 265 | 213 | 161 | 144 | 157 | 200 | 186 |
| 16 | 164 | 120 | 103 | 115 | 104 | 110 | 95 | 95 | 69 | 71 | 297 | 274 | 317 | 146 | (CM) | 119 | 196 | 229 | 224 | 214 | 122 | 214 | 161 | 159 |
| 17 | 104 | 141 | 163 | 134 | 132 | 106 | 65 | 85 | 63 | 38 | 270 | 212 | 211 | 210 | 227 | 225 | 226 | 220 | 209 | 205 | 221 | 192 | 183 | 188 |
| 18 | 196 | 207 | 281 | 241 | 191 | 179 | 73 | 124 | 147 | 200 | 222 | 215 | 231 | 240 | 227 | 240 | 229 | 213 | 207 | 235 | 259 | 307 | 330 | 0 |
| 19 | 20 | 42 | (CM) | 290 | 230 | 221 | 71 | 115 | 325 | 315 | 331 | 306 | 310 | 323 | 339 | 335 | 336 | 321 | 272 | 239 | 232 | 225 | 218 | 146 |
| 20 | (CM) | 217 | 211 | (CM) | 11 | 223 | 131 | 101 | 73 | 329 | 300 | 303 | 315 | 314 | 305 | 335 | 329 | 321 | 243 | 224 | 202 | 173 | 161 | 247 |
| 21 | 195 | 210 | 256 | 200 | 96 | 216 | 212 | 246 | 65 | 19 | 332 | 325 | 328 | 324 | 335 | 333 | 343 | 333 | 223 | 212 | (CM) | 164 | 213 | 58 |
| 22 | 310 | 310 | 141 | (CM) | 226 | 176 | (CM) | 91 | 76 | 11 | 17 | 357 | 331 | 330 | 311 | 332 | 320 | 218 | 144 | 80 | 101 | 113 | 109 | 115 |
| 23 | 121 | 122 | 151 | 111 | 115 | 106 | 114 | 91 | 98 | 216 | 217 | 216 | 205 | 217 | 226 | 233 | 219 | 226 | 205 | 206 | 203 | 126 | 323 | 265 |
| 24 | 246 | 264 | 235 | 239 | 220 | 244 | 292 | 314 | 309 | 297 | 306 | 318 | 325 | 336 | 365 | 351 | 340 | 343 | 324 | 299 | 252 | 234 | 240 | 224 |
| 25 | 212 | 197 | 227 | 196 | 221 | 253 | 139 | 90 | 23 | 310 | 4 | 338 | 323 | 339 | 301 | 321 | 339 | 249 | 227 | 233 | 219 | 195 | 94 | 141 |
| 26 | 203 | 90 | (CM) | 229 | 217 | 210 | 220 | 116 | (CM) | 327 | 303 | 303 | 307 | 329 | 311 | 298 | 294 | 265 | 226 | 230 | (CM) | (CM) | 191 | 267 |
| 27 | 164 | 166 | 143 | (CM) | 225 | (CM) | 120 | 133 | 73 | 13 | 15 | 327 | 315 | 319 | 325 | 339 | 352 | 60 | 203 | 175 | 225 | 399 | 210 | 211 |
| 28 | 217 | 203 | 200 | 324 | 94 | 94 | 214 | 248 | 54 | 352 | 1 | 429 | 322 | 327 | 311 | 331 | 339 | 7 | 45 | 231 | 222 | 217 | 211 | 216 |
| 29 | 145 | 251 | 219 | 210 | 221 | 246 | 160 | (CM) | 317 | 323 | 334 | 319 | 342 | 319 | 331 | 345 | 338 | 172 | 143 | 207 | 204 | 152 | 215 | 249 |
| 30 | (CM) | 213 | 204 | 145 | (CM) | 143 | 45 | 106 | 62 | 51 | 215 | 218 | 249 | 270 | 217 | 222 | 214 | 163 | 174 | 171 | 164 | 148 | 164 | 187 |
| 31 | 166 | 176 | 188 | 172 | 175 | 169 | 74 | 145 | 177 | 13 | 198 | 211 | 212 | 219 | 211 | 295 | 355 | 94 | 150 | 176 | 125 | 343 | 233 | 203 |
| PREV | | | | | | | | | | | | | | | | | | | | | | | | |

WIND DIRECTION = 30M
DEGREES

CB-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|------|------|-----|-----|------|------|-----|-----|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|------|------|------|------|------|
| 1 | 171 | 185 | 170 | 110 | 113 | 183 | 163 | 97 | 149 | 162 | 178 | 176 | 194 | 187 | 187 | 185 | 183 | 185 | 188 | 204 | 203 | 243 | 281 | 306 | 180 |
| 2 | 207 | 205 | 197 | 220 | 191 | 193 | 162 | 88 | 266 | 321 | 281 | 308 | 280 | 281 | 270 | 152 | 139 | 160 | 162 | 109 | 155 | 166 | 164 | 177 | 192 |
| 3 | 209 | 121 | 107 | 187 | 186 | 176 | 191 | 199 | 203 | 219 | 223 | 244 | 240 | 240 | 242 | 235 | 305 | 180 | 196 | 188 | 215 | 226 | 245 | 249 | 208 |
| 4 | 286 | 254 | 172 | 197 | 51 | 248 | 184 | 124 | 79 | 42 | 274 | 339 | 0 | 14 | 62 | 99 | 117 | 198 | 197 | 196 | 184 | 110 | 118 | 104 | 125 |
| 5 | 116 | 143 | 145 | 146 | 149 | 169 | 124 | 104 | 71 | 27 | 292 | 301 | 291 | 249 | 239 | 266 | 288 | 281 | 224 | 199 | 317 | (CM) | 259 | 111 | 174 |
| 6 | 238 | 94 | 199 | 194 | 145 | 233 | 49 | 126 | 68 | 14 | 349 | 0 | 217 | 239 | 266 | 281 | 224 | 199 | 199 | 341 | 214 | 171 | 115 | 221 | 221 |
| 7 | 115 | 150 | 148 | 119 | 112 | 126 | 115 | 107 | 68 | 247 | 358 | 290 | 157 | 333 | 184 | 156 | 185 | 199 | 122 | 125 | 232 | 214 | 193 | 194 | 156 |
| 8 | 347 | 232 | 333 | 176 | 279 | 14 | 121 | 67 | 54 | 9 | 325 | 249 | 148 | 220 | 305 | 321 | 307 | 279 | 244 | 147 | 179 | 175 | 130 | 89 | 292 |
| 9 | 97 | 129 | 125 | 164 | 142 | 144 | 134 | 145 | 211 | 212 | 219 | 211 | 215 | 217 | 218 | 216 | 218 | 215 | 203 | 172 | 159 | 141 | 167 | 175 | 178 |
| 10 | 173 | 173 | 174 | 173 | 189 | 274 | 267 | 253 | 5 | 30 | 13 | 29 | 107 | 107 | 30 | 341 | 320 | 314 | 350 | 1 | 331 | 48 | 140 | 145 | 13 |
| 11 | 120 | 102 | 158 | 90 | (CM) | 141 | 120 | 146 | 58 | 1 | 320 | 335 | 322 | 338 | 343 | 350 | 356 | 15 | 56 | 95 | 141 | 341 | 3 | 283 | 36 |
| 12 | 215 | 37 | 139 | 114 | 124 | 121 | 121 | 201 | 27 | 313 | 298 | 309 | 325 | 333 | 334 | 340 | 0 | 336 | 317 | 69 | 145 | 161 | 156 | 161 | 219 |
| 13 | 115 | 137 | 116 | 114 | 107 | 118 | 122 | 108 | 86 | 201 | 202 | 207 | 217 | 210 | 188 | 205 | 201 | 182 | 136 | 159 | 135 | 201 | 240 | 203 | 163 |
| 14 | 127 | 123 | 62 | 4 | 157 | 206 | 213 | 211 | 225 | 257 | 219 | 252 | 208 | 209 | 195 | 197 | 215 | 262 | 235 | 169 | 97 | 144 | 201 | 214 | 199 |
| 15 | 222 | 219 | 204 | 204 | 197 | 199 | 196 | 204 | 210 | 223 | 276 | 295 | 299 | 317 | 305 | 270 | 262 | 264 | 221 | 184 | 121 | 147 | 172 | 198 | 224 |
| 16 | 188 | 176 | 118 | 163 | 115 | 117 | 109 | 102 | 73 | 68 | 292 | 274 | 311 | 145 | (CM) | 112 | 194 | 231 | 237 | 222 | 157 | (CM) | 178 | 146 | 158 |
| 17 | 86 | 121 | 150 | 128 | 120 | 121 | 215 | 111 | 72 | 44 | 266 | 209 | 205 | 205 | 223 | 222 | 221 | 217 | 204 | 206 | 220 | 188 | 178 | 182 | 179 |
| 18 | 192 | 203 | 245 | 227 | 187 | 172 | 62 | 104 | 148 | 197 | 216 | 211 | 227 | 238 | 222 | 236 | 226 | 211 | 204 | 226 | 261 | 308 | 335 | 358 | 218 |
| 19 | 36 | 21 | 340 | 309 | 232 | (CM) | 100 | 321 | 313 | 323 | 302 | 305 | 319 | 334 | 332 | 332 | 326 | 327 | 289 | 263 | 255 | 243 | 236 | (CM) | 313 |
| 20 | 42 | 127 | 238 | 259 | 101 | 211 | 220 | 63 | 76 | 326 | 297 | 299 | 311 | 310 | 302 | 330 | 326 | 321 | 284 | 243 | 229 | (CM) | 42 | 293 | 301 |
| 21 | (CM) | 151 | 310 | 234 | 61 | 105 | 180 | 258 | 80 | 14 | 331 | 322 | 323 | 323 | 331 | 328 | 341 | 339 | 270 | 227 | 27 | 338 | 210 | 352 | 325 |
| 22 | 291 | 289 | 141 | 37 | 243 | 238 | 209 | 73 | 77 | 19 | 15 | 352 | 326 | 329 | 8 | 332 | 314 | 220 | 176 | 42 | (CM) | 121 | 114 | 114 | 2 |
| 23 | 108 | 98 | 143 | 126 | 128 | 107 | 108 | 94 | 102 | 210 | 212 | 213 | 200 | 214 | 222 | 228 | 214 | 223 | 208 | 204 | 199 | 182 | 3 | 274 | 177 |
| 24 | 268 | 275 | 266 | 270 | 233 | 254 | 292 | 315 | 305 | 293 | 303 | 314 | 320 | 332 | 341 | 346 | 336 | 343 | 323 | 305 | 266 | 252 | 259 | 241 | 294 |
| 25 | 229 | 172 | 257 | 63 | 167 | 322 | 151 | 148 | 28 | 310 | 334 | 334 | 320 | 333 | 301 | 317 | 336 | 314 | 247 | 262 | 235 | 217 | 90 | 65 | 274 |
| 26 | 158 | 203 | 344 | 215 | 191 | 202 | 242 | 7 | (CM) | 323 | 299 | 300 | 303 | 324 | 307 | 298 | 293 | 294 | 253 | 256 | 170 | 68 | 11 | 190 | 295 |
| 27 | 144 | 132 | 135 | 122 | 231 | 109 | 94 | 140 | 86 | 11 | 4 | 316 | 310 | 314 | 321 | 335 | 351 | 41 | 153 | (CM) | 232 | (CM) | 217 | 205 | 96 |
| 28 | 207 | (CM) | 213 | 297 | 300 | 72 | 204 | 260 | 48 | 346 | 356 | 325 | 320 | 307 | 325 | 336 | 4 | 18 | 254 | 230 | 236 | 157 | 275 | 300 | 280 |
| 29 | 85 | 307 | 191 | 228 | 291 | 215 | 273 | 233 | 321 | 308 | 317 | 330 | 317 | 335 | 315 | 330 | 345 | 0 | 131 | 110 | 158 | 177 | 178 | 210 | 288 |
| 30 | 225 | 197 | 198 | 164 | 250 | 185 | 151 | 108 | 88 | 53 | 208 | 215 | 245 | 266 | 213 | 219 | 211 | 215 | 177 | 171 | 160 | 162 | 144 | 167 | 188 |
| 31 | 172 | 175 | 173 | 159 | 163 | 169 | 79 | 139 | 180 | 12 | 193 | 206 | 209 | 215 | 209 | 287 | 357 | 63 | 126 | 151 | 177 | 299 | (CM) | 37 | 170 |
| PV | 169 | 161 | 170 | 164 | 166 | 174 | 153 | 121 | 75 | 333 | 291 | 287 | 274 | 279 | 278 | 280 | 282 | 264 | 207 | 194 | 193 | 196 | 173 | 195 | 223 |

WIND DIRECTION # 60M
DEGREES

CB-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 1 | 174 | 176 | 170 | 131 | 143 | 185 | 170 | 102 | 147 | 165 | 178 | 177 | 192 | 185 | 186 | 183 | 181 | 183 | 187 | 202 | 203 | 240 | 268 | 283 | 182 |
| 2 | 210 | 207 | 196 | 222 | 194 | 198 | 88 | 117 | 253 | 321 | 274 | 282 | 303 | 283 | 272 | 258 | 146 | 182 | 189 | 140 | 184 | 204 | 196 | 205 | 208 |
| 3 | 209 | 176 | 129 | 190 | 187 | 196 | 195 | 197 | 201 | 217 | 222 | 243 | 242 | 222 | 243 | 239 | 298 | 180 | 202 | 192 | 230 | 246 | 262 | 255 | 214 |
| 4 | 284 | 288 | 215 | 123 | 127 | 286 | 246 | 161 | 118 | 40 | 270 | 335 | 0 | 10 | 62 | 99 | 130 | 198 | 202 | 196 | 196 | 196 | 172 | 118 | 192 |
| 5 | 118 | 160 | 161 | 156 | 145 | 184 | 165 | 122 | 94 | 30 | 289 | 298 | 288 | 248 | 241 | 234 | 227 | 310 | 311 | 336 | 351 | 319 | 190 | 161 | 217 |
| 6 | 220 | 3 | 93 | 210 | 119 | 135 | 284 | 148 | 82 | 17 | 350 | 352 | 215 | 243 | 264 | 268 | 282 | 227 | 208 | 207 | 199 | 231 | 204 | 166 | 219 |
| 7 | 135 | 171 | 185 | 164 | 110 | 138 | 134 | 145 | 86 | 240 | 356 | 294 | 168 | 338 | 191 | 160 | 184 | 194 | 148 | 156 | 274 | 225 | 193 | 167 | 172 |
| 8 | 313 | 241 | 309 | 121 | 132 | 312 | 312 | 313 | 32 | 15 | 329 | 256 | 151 | 221 | 305 | 323 | 319 | 295 | 255 | 197 | 188 | 182 | 162 | 108 | 273 |
| 9 | 108 | 127 | 145 | 171 | 151 | 149 | 141 | 153 | 214 | 210 | 218 | 210 | 213 | 218 | 217 | 215 | 217 | 214 | 205 | 186 | 180 | 173 | 172 | 176 | 184 |
| 10 | 173 | 172 | 176 | 177 | 193 | 283 | 276 | 261 | 6 | 31 | 15 | 31 | 109 | 112 | 34 | 341 | 322 | 318 | 351 | 20 | 354 | 50 | 135 | 136 | 25 |
| 11 | 118 | 81 | 90 | 94 | 135 | 130 | 119 | 133 | 60 | 359 | 323 | 333 | 323 | 337 | 343 | 349 | 358 | 18 | 53 | 80 | 101 | 17 | 0 | 339 | 41 |
| 12 | 291 | 25 | 62 | 93 | 104 | 112 | 153 | 112 | 282 | 298 | 313 | 327 | 332 | 335 | 340 | 1 | 339 | 319 | 49 | 133 | 172 | 102 | 185 | 246 | 10 |
| 13 | 123 | 158 | 138 | 127 | 145 | 148 | 149 | 136 | 137 | 199 | 201 | 205 | 215 | 209 | 188 | 202 | 199 | 183 | 147 | 169 | 164 | 200 | 238 | 205 | 174 |
| 14 | 148 | 156 | 114 | 336 | 166 | 207 | 215 | 212 | 225 | 256 | 221 | 251 | 208 | 211 | 197 | 199 | 215 | 259 | 235 | 202 | 139 | 155 | 222 | 232 | 206 |
| 15 | 231 | 234 | 212 | 218 | 209 | 207 | 205 | 213 | 212 | 222 | 271 | 292 | 298 | 318 | 305 | 272 | 263 | 267 | 234 | 215 | 115 | 134 | 161 | 193 | 231 |
| 16 | 184 | 188 | 169 | 166 | 145 | 136 | 134 | 111 | 103 | 78 | 269 | 275 | 314 | 151 | (CM) | 116 | 197 | 234 | 248 | 235 | 200 | 132 | 184 | 145 | 173 |
| 17 | (CM) | 110 | 153 | 166 | 130 | 180 | 201 | 176 | 106 | 53 | 259 | 210 | 205 | 205 | 223 | 220 | 221 | 217 | 213 | 215 | 220 | 188 | 179 | 184 | 190 |
| 18 | 192 | 203 | 235 | 228 | 187 | 173 | 57 | 120 | 159 | 195 | 214 | 210 | 226 | 230 | 221 | 236 | 226 | 211 | 207 | 230 | 270 | 314 | 344 | 0 | 217 |
| 19 | 21 | 40 | 30 | 351 | 319 | 249 | 240 | 129 | 331 | 319 | 323 | 303 | 308 | 322 | 335 | 334 | 356 | 358 | 309 | 282 | 277 | 265 | 259 | 225 | 313 |
| 20 | 204 | 102 | 109 | 102 | 106 | 101 | 100 | 90 | 75 | 331 | 299 | 301 | 314 | 311 | 304 | 331 | 328 | 335 | 350 | 271 | 260 | 225 | 135 | (CM) | 341 |
| 21 | 353 | 124 | 318 | 254 | 233 | 80 | 117 | 34 | 15 | 17 | 338 | 325 | 326 | 325 | 332 | 330 | 343 | 343 | 14 | 90 | 90 | 113 | 4 | 9 | 26 |
| 22 | 68 | 138 | (CM) | 6 | 50 | 0 | 189 | 51 | 71 | 39 | 11 | 351 | 327 | 332 | 6 | 332 | 315 | 288 | 205 | 202 | 204 | 190 | 147 | 150 | 187 |
| 23 | 73 | 93 | 153 | 168 | 148 | 117 | 120 | 115 | 137 | 208 | 210 | 211 | 198 | 213 | 222 | 226 | 213 | 221 | 214 | 215 | 210 | 200 | 332 | 279 | 305 |
| 24 | 275 | 304 | 297 | 292 | 282 | 267 | 300 | 324 | 310 | 297 | 305 | 316 | 324 | 333 | 343 | 349 | 341 | 347 | 328 | 271 | 284 | 271 | 275 | 265 | 187 |
| 25 | 272 | 157 | 0 | 6 | 135 | 300 | 225 | 180 | 90 | 328 | 348 | 334 | 320 | 332 | 306 | 319 | 338 | 339 | 272 | 284 | 252 | 240 | 222 | 10 | 305 |
| 26 | 95 | 100 | 99 | 118 | 125 | 122 | 135 | 124 | 117 | 314 | 297 | 300 | 308 | 324 | 311 | 302 | 297 | 320 | 286 | 269 | 238 | 225 | 151 | 183 | 243 |
| 27 | 146 | 129 | 145 | 121 | 210 | 246 | 236 | 159 | 118 | 338 | 353 | 320 | 313 | 316 | 321 | 335 | 355 | 30 | 77 | 346 | 315 | 202 | 195 | 208 | 286 |
| 28 | 212 | 180 | 197 | 114 | 304 | 44 | 149 | 261 | 5 | 351 | 353 | 323 | 322 | 311 | 328 | 339 | 7 | 12 | 294 | 246 | 283 | 221 | 236 | 305 | 31 |
| 29 | 332 | 69 | 112 | 112 | 114 | 40 | 111 | 233 | 9 | 303 | 320 | 333 | 323 | 333 | 265 | 211 | 332 | 349 | 5 | 95 | 109 | 148 | 159 | 181 | 195 |
| 30 | 233 | 197 | 196 | 184 | 215 | 194 | 194 | 152 | 140 | 168 | 207 | 216 | 243 | 265 | 211 | 218 | 211 | 214 | 178 | 175 | 160 | 165 | 158 | 168 | 194 |
| 31 | 172 | 173 | 167 | 160 | 162 | 174 | 35 | 159 | 186 | 17 | 192 | 205 | 207 | 214 | 210 | 288 | 358 | 57 | 115 | 141 | 191 | 250 | 318 | 345 | 183 |
| PV | 184 | 152 | 154 | 158 | 155 | 172 | 169 | 147 | 105 | 328 | 280 | 286 | 275 | 280 | 279 | 281 | 283 | 270 | 224 | 206 | 209 | 207 | 197 | 202 | 231 |

WIND DIRECTION AND
VECTOR AVERAGE VELOCITY (DEG & MPS)
10 METER LEVEL

CB-TRACT
TRAILER AA23
OCT. 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | VECTOR | | | | | | | | | | |
|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | DIR | VEL |
| 1 | 179 | 195 | 171 | 97 | 108 | 186 | 164 | 106 | 159 | 163 | 183 | 179 | 200 | 191 | 192 | 190 | 188 | 190 | 194 | 209 | 207 | 248 | 295 | 326 | 190 | 3.6 |
| 2 | 207 | 207 | 202 | 215 | 193 | 195 | 50 | 66 | 278 | 324 | 287 | 348 | 312 | 286 | 272 | 155 | 181 | 143 | 137 | 102 | 125 | 67 | 127 | 93 | 201 | 0.6 |
| 3 | 208 | 94 | 106 | 103 | 190 | 153 | 187 | 204 | 204 | 224 | 228 | 248 | 240 | 219 | 247 | 237 | 309 | 184 | 207 | 196 | ** | 211 | 227 | 235 | 217 | 2.2 |
| 4 | 283 | 219 | 180 | 183 | 112 | 225 | 117 | 114 | 68 | 47 | 279 | 345 | 9 | 18 | 62 | 105 | ** | 204 | 201 | 205 | 79 | 86 | 90 | 96 | 143 | 0.4 |
| 5 | 127 | 148 | 152 | 151 | 158 | 116 | 99 | 68 | 24 | 289 | 305 | 298 | 258 | 242 | 237 | 283 | 231 | 246 | 249 | 216 | 253 | 145 | 203 | 189 | 0.6 | |
| 6 | 223 | 109 | 208 | 146 | 196 | 232 | 85 | 122 | 61 | 14 | 351 | 6 | 226 | 245 | 269 | 270 | 283 | 290 | 202 | 201 | 39 | 341 | 99 | 111 | 227 | 0.5 |
| 7 | 124 | 144 | 104 | 105 | 117 | 124 | 109 | 83 | 65 | 297 | 0 | 298 | 161 | 335 | 189 | 161 | 191 | 216 | 142 | 173 | 210 | 111 | 196 | 205 | 156 | 1.0 |
| 8 | ** | 225 | 232 | 199 | 270 | 214 | 265 | 53 | 42 | 8 | 325 | 239 | 156 | 323 | 307 | 325 | 299 | 281 | 236 | 138 | 181 | 169 | 102 | 78 | 247 | 0.3 |
| 9 | 98 | 122 | 117 | 166 | 148 | 153 | 135 | 146 | 225 | 217 | 222 | 216 | 220 | 221 | 222 | 221 | 222 | 220 | 202 | 156 | 130 | 101 | 169 | 179 | 196 | 2.8 |
| 10 | 179 | 180 | 180 | 178 | 193 | 278 | 269 | 257 | 7 | 33 | 16 | 34 | 111 | 107 | 33 | 344 | 325 | 314 | 349 | 349 | 302 | 59 | 157 | 156 | 194 | 0.5 |
| 11 | 129 | 248 | 204 | 135 | 228 | 175 | 219 | 174 | 59 | 6 | 324 | 343 | 328 | 343 | 347 | 354 | 358 | 19 | 66 | 161 | 197 | 191 | 315 | 229 | 349 | 0.7 |
| 12 | 212 | 209 | 170 | 155 | 174 | 201 | 209 | 66 | 320 | 303 | 312 | 327 | 339 | 340 | 346 | 4 | 339 | 320 | 180 | 181 | 180 | 208 | 166 | 145 | 299 | 0.4 |
| 13 | 135 | 144 | 128 | 113 | 95 | 109 | 107 | 97 | 70 | 208 | 207 | 212 | 222 | 215 | 194 | 211 | 207 | 187 | 143 | 155 | 155 | 202 | 246 | 207 | 188 | 2.2 |
| 14 | 120 | 114 | 53 | 35 | 156 | 208 | 216 | 215 | 230 | 261 | 221 | 256 | 212 | 214 | 201 | 211 | 218 | 269 | 240 | 157 | 90 | 147 | 193 | 187 | 214 | 2.4 |
| 15 | 219 | 220 | 204 | 202 | 196 | 207 | 203 | 204 | 211 | 226 | 281 | 301 | 306 | 322 | 315 | 275 | 266 | 265 | 213 | 161 | 144 | 157 | 200 | 186 | 234 | 1.3 |
| 16 | 168 | 120 | 103 | 115 | 104 | 110 | 95 | 95 | 69 | 71 | 297 | 274 | 317 | 146 | ** | 119 | 196 | 229 | 224 | 214 | 122 | 214 | 161 | 159 | 142 | 0.6 |
| 17 | 109 | 141 | 163 | 138 | 132 | 106 | 66 | 85 | 63 | 38 | 270 | 212 | 211 | 210 | 227 | 225 | 226 | 220 | 209 | 205 | 221 | 192 | 183 | 188 | 194 | 1.8 |
| 18 | 196 | 207 | 281 | 231 | 191 | 179 | 73 | 124 | 147 | 200 | 222 | 215 | 231 | 240 | 227 | 240 | 229 | 213 | 207 | 235 | 259 | 307 | 330 | 0 | 225 | 2.2 |
| 19 | 20 | 43 | ** | 290 | 238 | 221 | 71 | 115 | 325 | 315 | 331 | 306 | 311 | 323 | 339 | 335 | 336 | 321 | 272 | 239 | 232 | 225 | 218 | 146 | 307 | 1.1 |
| 20 | ** | 217 | 211 | ** | 131 | 223 | 131 | 101 | 73 | 329 | 300 | 303 | 315 | 314 | 305 | 335 | 329 | 321 | 243 | 224 | 202 | 173 | 161 | 247 | 294 | 0.8 |
| 21 | 185 | 210 | 256 | 200 | 96 | 218 | 212 | 246 | 65 | 19 | 332 | 325 | 328 | 328 | 335 | 333 | 343 | 333 | 223 | 212 | ** | 164 | 213 | 58 | 314 | 0.6 |
| 22 | 231 | 120 | 189 | ** | 226 | 176 | ** | 90 | 76 | 11 | 17 | 357 | 331 | 330 | 11 | 332 | 320 | 218 | 144 | 80 | 101 | 113 | 109 | 115 | 36 | 0.2 |
| 23 | 121 | 122 | 151 | 111 | 115 | 106 | 119 | 91 | 98 | 216 | 217 | 216 | 205 | 217 | 226 | 233 | 219 | 226 | 205 | 206 | 203 | 126 | 323 | 265 | 201 | 2.2 |
| 24 | 246 | 249 | 235 | 239 | 220 | 244 | 292 | 314 | 309 | 297 | 306 | 318 | 325 | 336 | 345 | 351 | 340 | 343 | 324 | 299 | 252 | 234 | 240 | 224 | 301 | 2.0 |
| 25 | 212 | 197 | 227 | 196 | 221 | 353 | 139 | 90 | 23 | 310 | 4 | 338 | 323 | 339 | 303 | 321 | 339 | 289 | 227 | 233 | 219 | 195 | 98 | 141 | 288 | 0.5 |
| 26 | 226 | 203 | 90 | ** | 229 | 217 | 210 | 16 | ** | 327 | 303 | 303 | 307 | 329 | 311 | 298 | 294 | 265 | 220 | 230 | ** | ** | ** | 191 | 276 | 1.0 |
| 27 | 169 | 166 | 143 | ** | 225 | ** | 120 | 133 | 73 | 13 | 13 | 320 | 315 | 319 | 325 | 339 | 352 | 60 | 203 | 175 | 225 | 99 | 210 | 211 | 324 | 0.5 |
| 28 | 217 | 203 | 220 | 324 | 84 | 84 | 214 | 248 | 54 | 352 | 5 | 327 | 322 | 327 | 311 | 331 | 339 | 7 | 45 | 231 | 222 | 217 | 211 | 216 | 301 | 0.6 |
| 29 | 145 | 250 | 219 | 210 | 225 | 221 | 246 | 180 | ** | 317 | 323 | 334 | 319 | 342 | 319 | 333 | 345 | 338 | 172 | 143 | 207 | 204 | 152 | 215 | 287 | 0.6 |
| 30 | 130 | ** | 216 | 184 | ** | 183 | 65 | 106 | 62 | 51 | 215 | 218 | 249 | 270 | 217 | 222 | 214 | 218 | 183 | 174 | 171 | 168 | 148 | 164 | 196 | 1.7 |
| 31 | 166 | 176 | 188 | 172 | 175 | 169 | 78 | 145 | 177 | 13 | 198 | 211 | 212 | 219 | 211 | 295 | 355 | 94 | 150 | 176 | 125 | 343 | 233 | 203 | 193 | 1.5 |
| VD | 175 | 177 | 177 | 165 | 172 | 183 | 157 | 132 | 94 | 279 | 259 | 258 | 250 | 256 | 256 | 258 | 252 | 243 | 208 | 201 | 195 | 190 | 176 | 178 | 217 | |
| VV | 1.1 | 1.0 | 1.0 | 1.1 | 1.3 | 1.0 | 0.5 | 0.6 | 0.2 | 0.7 | 1.3 | 1.5 | 1.7 | 1.6 | 1.7 | 1.5 | 1.4 | 1.2 | 1.5 | 1.3 | 0.8 | 0.9 | 0.9 | 0.8 | | 0.8 |

TOTAL NUMBER OF OBSERVATIONS = 724

NOTE: *** = MISSING DATA

WIND DIRECTION AND
VECTOR AVERAGE VELOCITY (DEG & MPS)
30 METER LEVEL

CR-TRACT
TRAILER A423
OCT 1983
CATHERAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | VECTOR | | | | | | | | | | | | | | | |
|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | DIR | VEL |
| 1 | 171 | 185 | 170 | 110 | 113 | 183 | 163 | 97 | 149 | 162 | 178 | 176 | 194 | 187 | 187 | 185 | 183 | 185 | 188 | 204 | 203 | 243 | 281 | 306 | 185 | 5.2 |
| 2 | 207 | 205 | 197 | 220 | 191 | 193 | 62 | 88 | 266 | 321 | 281 | 308 | 306 | 281 | 270 | 152 | 139 | 160 | 162 | 109 | 155 | 86 | 164 | 177 | 207 | 1.4 |
| 3 | 209 | 121 | 107 | 127 | 186 | 176 | 191 | 199 | 203 | 219 | 223 | 244 | 240 | 220 | 242 | 235 | 305 | 180 | 198 | 188 | 215 | 226 | 245 | 249 | 214 | 3.3 |
| 4 | 286 | 254 | 172 | 197 | 51 | 248 | 84 | 124 | 79 | 42 | 274 | 339 | 0 | 14 | 62 | 99 | 117 | 198 | 197 | 196 | 184 | 110 | 118 | 104 | 165 | 0.6 |
| 5 | 116 | 143 | 145 | 146 | 149 | 163 | 149 | 124 | 104 | 71 | 27 | 292 | 301 | 291 | 249 | 239 | 233 | 228 | 299 | 281 | 317 | *** | 229 | 111 | 174 | 0.7 |
| 6 | 238 | 94 | 199 | 194 | 145 | 233 | 49 | 126 | 68 | 14 | 349 | 0 | 217 | 239 | 266 | 268 | 281 | 224 | 199 | 399 | 341 | 274 | 171 | 115 | 220 | 0.8 |
| 7 | 115 | 150 | 148 | 119 | 112 | 126 | 115 | 107 | 68 | 247 | 358 | 290 | 157 | 333 | 184 | 158 | 185 | 199 | 122 | 125 | 232 | 214 | 193 | 194 | 154 | 1.3 |
| 8 | 347 | 232 | 333 | 176 | 279 | 14 | 21 | 67 | 54 | 9 | 325 | 249 | 148 | 220 | 305 | 321 | 307 | 279 | 244 | 147 | 179 | 175 | 130 | 89 | 243 | 4.2 |
| 9 | 97 | 129 | 125 | 164 | 142 | 144 | 134 | 145 | 211 | 212 | 219 | 211 | 215 | 107 | 218 | 216 | 218 | 203 | 172 | 159 | 141 | 167 | 175 | 193 | 0.3 | |
| 10 | 173 | 173 | 174 | 173 | 189 | 274 | 267 | 253 | 5 | 30 | 13 | 29 | 107 | 107 | 30 | 341 | 320 | 314 | 350 | 1 | 331 | 48 | 140 | 145 | 177 | 0.8 |
| 11 | 120 | 102 | 158 | 90 | *** | 141 | 120 | 146 | 58 | 1 | 320 | 335 | 322 | 338 | 343 | 350 | 356 | 350 | 58 | 95 | 141 | 341 | 3 | 203 | 1 | 1.2 |
| 12 | 115 | 37 | 139 | 114 | 124 | 121 | 201 | 27 | 313 | 298 | 309 | 325 | 333 | 334 | 340 | 0 | 336 | 317 | 69 | 145 | 161 | 156 | 161 | 219 | 330 | 0.6 |
| 13 | 115 | 137 | 116 | 114 | 107 | 118 | 122 | 108 | 86 | 201 | 202 | 207 | 217 | 210 | 188 | 205 | 201 | 182 | 136 | 159 | 135 | 201 | 240 | 203 | 184 | 3.2 |
| 14 | 127 | 123 | 62 | 4 | 157 | 206 | 213 | 211 | 225 | 257 | 219 | 252 | 208 | 209 | 195 | 197 | 215 | 262 | 235 | 169 | 97 | 144 | 201 | 214 | 212 | 3.7 |
| 15 | 222 | 219 | 204 | 204 | 197 | 199 | 196 | 204 | 210 | 223 | 276 | 295 | 299 | 317 | 305 | 270 | 262 | 264 | 221 | 184 | 121 | 147 | 172 | 198 | 226 | 2.1 |
| 16 | 188 | 176 | 118 | 163 | 115 | 117 | 109 | 102 | 73 | 68 | 292 | 274 | 311 | 145 | *** | 112 | 194 | 231 | 237 | 222 | 157 | *** | 178 | 146 | 161 | 0.8 |
| 17 | 86 | 121 | 150 | 128 | 120 | 121 | 215 | 111 | 72 | 44 | 266 | 209 | 205 | 205 | 223 | 222 | 221 | 217 | 204 | 206 | 220 | 188 | 178 | 182 | 193 | 2.7 |
| 18 | 192 | 203 | 245 | 227 | 187 | 172 | 62 | 104 | 148 | 197 | 216 | 211 | 227 | 238 | 222 | 236 | 226 | 221 | 204 | 226 | 261 | 308 | 335 | 358 | 221 | 3.3 |
| 19 | 18 | 36 | 21 | 340 | 309 | 232 | *** | 100 | 321 | 313 | 323 | 302 | 305 | 319 | 334 | 332 | 335 | 321 | 289 | 263 | 255 | 243 | 236 | *** | 316 | 2.0 |
| 20 | 42 | 127 | 238 | 259 | 101 | 220 | 63 | 76 | 326 | 297 | 299 | 311 | 310 | 302 | 330 | 326 | 327 | 328 | 243 | 229 | *** | 42 | 293 | 307 | 1.1 | |
| 21 | *** | 151 | 310 | 234 | 61 | 105 | 180 | 258 | 80 | 14 | 331 | 352 | 326 | 329 | 8 | 332 | 314 | 220 | 176 | 42 | *** | 121 | 114 | 114 | 345 | 0.3 |
| 22 | 291 | 269 | 141 | 37 | 243 | 238 | 209 | 73 | 77 | 19 | 15 | 352 | 323 | 333 | 331 | 328 | 341 | 339 | 270 | 227 | 27 | 338 | 210 | 352 | 327 | 1.0 |
| 23 | 104 | 98 | 143 | 126 | 128 | 107 | 108 | 94 | 102 | 210 | 212 | 213 | 200 | 214 | 222 | 228 | 214 | 223 | 208 | 204 | 199 | 182 | 3 | 274 | 198 | 3.4 |
| 24 | 268 | 275 | 266 | 270 | 233 | 254 | 292 | 315 | 305 | 293 | 303 | 314 | 320 | 332 | 341 | 346 | 336 | 343 | 323 | 305 | 266 | 252 | 259 | 241 | 303 | 3.2 |
| 25 | 229 | 172 | 257 | 83 | 167 | 322 | 151 | 148 | 28 | 310 | 354 | 334 | 320 | 333 | 301 | 317 | 336 | 314 | 247 | 262 | 235 | 217 | 90 | 65 | 302 | 0.7 |
| 26 | 158 | 203 | 344 | 215 | 191 | 202 | 242 | 7 | *** | 323 | 299 | 300 | 303 | 324 | 307 | 298 | 293 | 294 | 253 | 256 | 170 | 68 | 11 | 190 | 269 | 1.1 |
| 27 | 144 | 132 | 135 | 122 | 231 | 109 | 94 | 140 | 86 | 11 | 4 | 316 | 310 | 314 | 321 | 335 | 351 | 41 | 153 | *** | 232 | *** | 217 | 205 | 332 | 0.7 |
| 28 | 207 | 342 | 213 | 297 | 300 | 72 | 204 | 260 | 48 | 346 | 356 | 325 | 320 | 320 | 307 | 325 | 336 | 4 | 18 | 254 | 230 | 236 | 157 | 275 | 317 | 1.0 |
| 29 | 85 | 307 | 191 | 228 | 291 | 215 | 273 | 233 | 321 | 308 | 317 | 330 | 317 | 335 | 315 | 330 | 345 | 0 | 131 | 110 | 158 | 177 | 178 | 210 | 310 | 0.7 |
| 30 | 225 | 197 | 198 | 164 | 250 | 185 | 151 | 108 | 88 | 53 | 208 | 215 | 245 | 266 | 213 | 219 | 211 | 215 | 177 | 171 | 160 | 162 | 144 | 167 | 182 | 2.5 |
| 31 | 172 | 175 | 173 | 159 | 163 | 169 | 79 | 139 | 180 | 12 | 193 | 206 | 209 | 215 | 209 | 287 | 357 | 63 | 126 | 151 | 177 | 299 | *** | 37 | 183 | 2.3 |
| VO | 169 | 171 | 167 | 167 | 164 | 175 | 161 | 138 | 150 | 267 | 251 | 253 | 245 | 251 | 250 | 251 | 245 | 241 | 209 | 202 | 200 | 197 | 179 | 179 | 214 | |
| VV | 1.2 | 1.2 | 1.2 | 1.3 | 1.7 | 1.4 | 0.8 | 0.9 | 0.3 | 0.9 | 1.7 | 2.0 | 2.4 | 2.3 | 2.3 | 2.0 | 1.9 | 1.7 | 1.9 | 1.8 | 1.2 | 1.4 | 1.1 | 1.1 | 1.2 | |

TOTAL NUMBER OF OBSERVATIONS = 730

NOTE: *** = MISSING DATA

CB-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

WIND DIRECTION AND
VELOCITY AVERAGE VELOCITY (DEG & MPS)
60 METER LEVEL

| | | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | VECTOR | | | | | | | | | | | | | |
|-----|-----|-------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 13 14 15 16 17 18 19 20 21 22 23 24 | | | | | | | | | | | | DIR VEL | | | | | | | | | | | | | |
| DAY | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | DIR | VEL |
| 1 | 174 | 176 | 170 | 131 | 143 | 185 | 170 | 102 | 147 | 165 | 178 | 177 | 192 | 185 | 186 | 183 | 181 | 183 | 187 | 202 | 203 | 240 | 268 | 283 | 185 | 6.0 | |
| 2 | 210 | 207 | 196 | 222 | 194 | 198 | 188 | 117 | 253 | 321 | 274 | 282 | 303 | 283 | 272 | 258 | 146 | 182 | 189 | 140 | 184 | 204 | 196 | 205 | 212 | 2.3 | |
| 3 | 209 | 176 | 129 | 160 | 187 | 196 | 195 | 197 | 201 | 217 | 222 | 243 | 242 | 242 | 243 | 239 | 198 | 180 | 202 | 192 | 230 | 246 | 252 | 255 | 216 | 4.1 | |
| 4 | 284 | 268 | 215 | 213 | 127 | 286 | 246 | 161 | 118 | 40 | 270 | 335 | 6 | 10 | 62 | 98 | 130 | 158 | 202 | 196 | 196 | 196 | 172 | 118 | 197 | 1.0 | |
| 5 | 160 | 160 | 161 | 156 | 145 | 184 | 165 | 145 | 122 | 94 | 30 | 289 | 298 | 288 | 248 | 241 | 234 | 227 | 310 | 311 | 336 | 351 | 319 | 161 | 211 | 0.8 | |
| 6 | 220 | 3 | 93 | 210 | 119 | 135 | 284 | 148 | 82 | 17 | 350 | 352 | 215 | 243 | 264 | 268 | 282 | 227 | 208 | 207 | 199 | 231 | 204 | 166 | 227 | 1.3 | |
| 7 | 135 | 171 | 185 | 164 | 110 | 138 | 134 | 145 | 86 | 240 | 354 | 294 | 168 | 338 | 191 | 160 | 184 | 194 | 148 | 156 | 274 | 225 | 193 | 167 | 172 | 1.1 | |
| 8 | 313 | 241 | 309 | 121 | 132 | 312 | 312 | 313 | 32 | 15 | 329 | 256 | 151 | 221 | 305 | 323 | 319 | 285 | 255 | 197 | 188 | 182 | 162 | 108 | 245 | 0.7 | |
| 9 | 108 | 127 | 145 | 171 | 193 | 283 | 276 | 261 | 6 | 31 | 15 | 31 | 109 | 112 | 34 | 341 | 322 | 318 | 351 | 20 | 354 | 50 | 135 | 136 | 175 | 0.9 | |
| 10 | 173 | 172 | 176 | 177 | 193 | 283 | 276 | 261 | 6 | 31 | 15 | 31 | 109 | 112 | 34 | 341 | 322 | 318 | 351 | 20 | 354 | 50 | 135 | 136 | 175 | 0.9 | |
| 11 | 118 | 81 | 90 | 94 | 135 | 130 | 119 | 133 | 60 | 359 | 323 | 333 | 323 | 337 | 343 | 349 | 358 | 18 | 53 | 80 | 101 | 17 | 0 | 339 | 12 | 1.5 | |
| 12 | 291 | 25 | 62 | 93 | 104 | 112 | 153 | 112 | 282 | 298 | 313 | 327 | 332 | 335 | 340 | 1 | 339 | 319 | 49 | 133 | 172 | 102 | 185 | 246 | 343 | 0.7 | |
| 13 | 123 | 158 | 138 | 127 | 145 | 148 | 149 | 136 | 137 | 199 | 201 | 205 | 215 | 209 | 188 | 202 | 199 | 183 | 147 | 169 | 164 | 200 | 238 | 205 | 189 | 4.0 | |
| 14 | 148 | 156 | 114 | 336 | 166 | 207 | 215 | 212 | 225 | 256 | 221 | 251 | 208 | 211 | 197 | 199 | 215 | 259 | 235 | 202 | 139 | 155 | 222 | 232 | 214 | 4.7 | |
| 15 | 231 | 234 | 212 | 218 | 209 | 207 | 205 | 213 | 212 | 222 | 271 | 292 | 298 | 318 | 305 | 272 | 263 | 267 | 234 | 215 | 115 | 134 | 161 | 193 | 230 | 2.6 | |
| 16 | 184 | 188 | 169 | 186 | 145 | 136 | 134 | 111 | 103 | 78 | 289 | 275 | 314 | 151 | ** | 116 | 197 | 234 | 248 | 235 | 200 | 132 | 184 | 145 | 183 | 1.0 | |
| 17 | ** | 110 | 153 | 166 | 130 | 180 | 201 | 176 | 106 | 53 | 259 | 210 | 205 | 205 | 223 | 220 | 221 | 217 | 213 | 215 | 220 | 188 | 179 | 184 | 199 | 3.5 | |
| 18 | 192 | 203 | 235 | 228 | 187 | 173 | 57 | 120 | 159 | 195 | 214 | 210 | 226 | 239 | 221 | 236 | 226 | 211 | 207 | 230 | 270 | 314 | 344 | 0 | 222 | 3.8 | |
| 19 | 21 | 40 | 30 | 351 | 319 | 249 | 240 | 129 | 331 | 319 | 323 | 303 | 308 | 322 | 335 | 334 | 336 | 328 | 309 | 282 | 277 | 265 | 259 | 225 | 322 | 2.2 | |
| 20 | 204 | 102 | 109 | 102 | 106 | 101 | 100 | 90 | 75 | 331 | 299 | 301 | 314 | 311 | 304 | 331 | 328 | 333 | 320 | 271 | 260 | 225 | 135 | ** | 315 | 1.1 | |
| 21 | 353 | 124 | 318 | 254 | 233 | 80 | 117 | 34 | 15 | 17 | 338 | 325 | 326 | 325 | 332 | 330 | 343 | 343 | 14 | 90 | 90 | 90 | 113 | 4 | 342 | 1.2 | |
| 22 | 68 | 138 | ** | 6 | 50 | 0 | 189 | 51 | 71 | 39 | 11 | 351 | 327 | 332 | 6 | 332 | 315 | 228 | 205 | 202 | 204 | 190 | 147 | 150 | 327 | 0.4 | |
| 23 | 73 | 93 | 153 | 168 | 148 | 117 | 120 | 115 | 137 | 208 | 210 | 211 | 198 | 213 | 222 | 226 | 213 | 221 | 214 | 215 | 210 | 200 | 332 | 279 | 205 | 4.1 | |
| 24 | 275 | 304 | 297 | 292 | 262 | 267 | 300 | 324 | 310 | 297 | 305 | 316 | 324 | 333 | 343 | 349 | 341 | 347 | 328 | 317 | 284 | 271 | 275 | 265 | 312 | 3.9 | |
| 25 | 272 | 157 | 0 | 6 | 135 | 300 | 225 | 160 | 90 | 324 | 348 | 334 | 330 | 332 | 306 | 319 | 338 | 339 | 272 | 284 | 252 | 240 | 222 | 10 | 311 | 1.0 | |
| 26 | 95 | 100 | 99 | 118 | 125 | 122 | 135 | 124 | 117 | 314 | 297 | 300 | 308 | 324 | 311 | 302 | 297 | 320 | 286 | 269 | 238 | 225 | 151 | 183 | 301 | 0.8 | |
| 27 | 146 | 129 | 145 | 121 | 210 | 246 | 236 | 159 | 118 | 338 | 353 | 320 | 313 | 316 | 321 | 335 | 355 | 30 | 77 | 346 | 315 | 202 | 195 | 208 | 330 | 0.8 | |
| 28 | 212 | 160 | 197 | 114 | 304 | 44 | 149 | 261 | 5 | 351 | 353 | 323 | 322 | 311 | 328 | 339 | 7 | 12 | 294 | 246 | 253 | 221 | 236 | 325 | 1.1 | | |
| 29 | 332 | 69 | 112 | 112 | 114 | 40 | 111 | 233 | 9 | 303 | 320 | 333 | 323 | 323 | 311 | 332 | 349 | 5 | 95 | 109 | 148 | 159 | 161 | 195 | 341 | 0.6 | |
| 30 | 233 | 197 | 196 | 184 | 215 | 194 | 194 | 152 | 140 | 168 | 207 | 216 | 218 | 213 | 210 | 218 | 211 | 214 | 178 | 175 | 160 | 165 | 158 | 168 | 195 | 3.3 | |
| 31 | 172 | 173 | 167 | 160 | 162 | 174 | 35 | 159 | 186 | 177 | 192 | 205 | 207 | 214 | 210 | 288 | 358 | 57 | 115 | 141 | 191 | 250 | 318 | 345 | 183 | 2.5 | |
| W0 | 185 | 173 | 170 | 176 | 170 | 185 | 184 | 169 | 177 | 257 | 251 | 252 | 245 | 252 | 251 | 252 | 246 | 243 | 217 | 209 | 208 | 203 | 195 | 195 | 218 | | |
| WV | 1.4 | 1.3 | 1.5 | 1.6 | 2.0 | 1.5 | 1.1 | 1.1 | 0.7 | 1.0 | 1.8 | 2.2 | 2.5 | 2.5 | 2.6 | 2.1 | 2.1 | 1.9 | 2.0 | 2.0 | 1.6 | 1.7 | 1.4 | 1.4 | 1.4 | | |

TOTAL NUMBER OF OBSERVATIONS = 740

NOTE: *** = MISSING DATA

SIGMA HORIZ. WIND DIR. # 10M
DEGREES

CB-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|------|----|------|------|------|------|------|----|------|----|----|----|----|----|----|----|------|----|----|----|------|------|------|----|-----|------|----|
| 1 | 5 | 5 | 9 | 6 | 7 | 7 | 10 | 16 | 17 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 10 | 9 | 12 | 13 | 10 | 12 | 12 | 12 | 11 | 20 |
| 2 | 9 | 8 | 15 | 16 | 7 | 10 | 16 | 12 | 20 | 16 | 26 | 20 | 10 | 8 | 11 | 10 | 8 | 8 | 16 | 9 | 13 | 20 | 15 | 19 | 13 | 26 | 26 |
| 3 | 20 | 13 | 14 | 12 | 16 | 22 | 40 | 11 | 10 | 10 | 10 | 12 | 10 | 8 | 12 | 11 | 11 | 7 | 6 | 11 | (CM) | 2 | 2 | 4 | 12 | 40 | 40 |
| 4 | 5 | 4 | 3 | 5 | 8 | 12 | 6 | 8 | 9 | 23 | 34 | 34 | 37 | 32 | 34 | 27 | (CM) | 19 | 6 | 7 | 21 | 10 | 7 | 7 | 17 | 37 | 37 |
| 5 | 5 | 4 | 3 | 5 | 8 | 12 | 6 | 8 | 10 | 28 | 41 | 29 | 38 | 31 | 24 | 22 | 12 | 19 | 11 | 10 | 1 | 14 | 8 | 17 | 15 | 41 | 41 |
| 6 | 24 | 6 | 5 | 7 | 8 | 6 | 8 | 13 | 22 | 29 | 38 | 27 | 29 | 19 | 19 | 19 | 24 | 7 | 5 | 9 | 14 | 22 | 25 | 17 | 16 | 38 | 38 |
| 7 | 6 | 5 | 10 | 5 | 4 | 4 | 4 | 12 | 40 | 39 | 22 | 28 | 16 | 15 | 15 | 15 | 6 | 6 | 12 | 6 | 15 | 2 | 8 | 18 | 12 | 40 | 40 |
| 8 | 7 | 6 | 11 | 12 | 14 | 1 | 1 | 8 | 5 | 21 | 10 | 19 | 25 | 29 | 22 | 14 | 10 | 13 | 6 | 5 | 15 | 8 | 17 | 14 | 14 | 29 | 29 |
| 9 | 7 | 5 | 7 | 4 | 17 | 5 | 9 | 12 | 20 | 13 | 14 | 14 | 12 | 12 | 11 | 10 | 11 | 7 | 6 | 6 | 8 | 12 | 10 | 7 | 10 | 20 | 20 |
| 10 | 6 | 6 | 6 | 5 | 7 | 9 | 7 | 8 | 13 | 14 | 10 | 12 | 14 | 22 | 22 | 13 | 10 | 5 | 12 | 8 | 11 | 13 | 6 | 9 | 10 | 22 | 22 |
| 11 | 13 | 16 | 6 | 18 | 8 | 5 | 9 | 11 | 20 | 15 | 27 | 29 | 20 | 16 | 14 | 13 | 9 | 6 | 6 | 5 | 4 | 5 | 5 | 7 | 12 | 43 | 43 |
| 12 | 8 | 14 | 5 | 7 | 4 | 6 | 5 | 11 | 10 | 16 | 29 | 25 | 16 | 13 | 10 | 7 | 5 | 8 | 4 | 4 | 3 | (CM) | 6 | 8 | 11 | 24 | 24 |
| 13 | 5 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 17 | 19 | 12 | 11 | 11 | 11 | 12 | 14 | 10 | 9 | 8 | 9 | 9 | 10 | 15 | 12 | 9 | 19 | 19 |
| 14 | 14 | 14 | 17 | 13 | 10 | 9 | 7 | 9 | 10 | 16 | 29 | 25 | 16 | 13 | 14 | 11 | 8 | 6 | 3 | 4 | 11 | 14 | 6 | 5 | 10 | 25 | 25 |
| 15 | 4 | 3 | 16 | 6 | 6 | 8 | 43 | 10 | 9 | 16 | 16 | 19 | 18 | 20 | 26 | 17 | 9 | 6 | 3 | 6 | 5 | 6 | 8 | 11 | 12 | 43 | 43 |
| 16 | 18 | 14 | 4 | 7 | 7 | 3 | 4 | 5 | 8 | 16 | 29 | 25 | 16 | 13 | 14 | 11 | 8 | 6 | 5 | 3 | 3 | 7 | 5 | 12 | 11 | 35 | 35 |
| 17 | 10 | 10 | 9 | 3 | 6 | 5 | 13 | 11 | 4 | 9 | 12 | 10 | 13 | 16 | 14 | 13 | 10 | 6 | 7 | 13 | 6 | 9 | 15 | 11 | 11 | 23 | 23 |
| 18 | 4 | 23 | 17 | 13 | 6 | 8 | 11 | 4 | 9 | 12 | 10 | 13 | 13 | 16 | 14 | 13 | 10 | 6 | 7 | 13 | 6 | 9 | 15 | 11 | 11 | 23 | 23 |
| 19 | 9 | 10 | (CM) | 18 | 6 | 3 | 14 | 13 | 17 | 28 | 26 | 26 | 18 | 20 | 13 | 10 | 7 | 5 | 6 | 5 | 4 | 5 | 5 | 7 | 12 | 29 | 29 |
| 20 | (CM) | 8 | 5 | (CM) | 9 | 5 | 7 | 11 | 13 | 17 | 14 | 15 | 16 | 16 | 12 | 18 | 8 | 5 | 6 | 3 | 5 | 1 | 2 | 12 | 9 | 23 | 23 |
| 21 | 2 | 8 | 15 | 4 | 5 | 8 | 5 | 11 | 11 | 10 | 19 | 23 | 17 | 14 | 17 | 13 | 6 | 4 | 5 | 3 | (CM) | 6 | 8 | 6 | 16 | 9 | 18 |
| 22 | 10 | 8 | 15 | (CM) | 5 | 7 | (CM) | 16 | 14 | 15 | 22 | 23 | 26 | 31 | 18 | 10 | 8 | 14 | 16 | 23 | 7 | 5 | 5 | 8 | 11 | 24 | 24 |
| 23 | 11 | 22 | 5 | 4 | 5 | 6 | 7 | 7 | 17 | 15 | 11 | 12 | 12 | 14 | 11 | 12 | 9 | 6 | 5 | 6 | 18 | 24 | 13 | 8 | 11 | 24 | 24 |
| 24 | 5 | 5 | 4 | 4 | 5 | 5 | 3 | 9 | 9 | 8 | 10 | 10 | 10 | 9 | 9 | 10 | 8 | 6 | 5 | 6 | 5 | 5 | 6 | 5 | 17 | 10 | 10 |
| 25 | 6 | 6 | 6 | 10 | 6 | 13 | 3 | 6 | 11 | 24 | 40 | 21 | 24 | 15 | 17 | 12 | 4 | 4 | 3 | 3 | 3 | 7 | 5 | 12 | 11 | 40 | 40 |
| 26 | 7 | 8 | (CM) | 7 | 3 | 3 | 6 | 15 | 13 | 13 | 18 | 18 | 17 | 12 | 8 | 4 | 12 | 4 | 3 | 3 | (CM) | (CM) | (CM) | 8 | 9 | 18 | 18 |
| 27 | 16 | 11 | 7 | (CM) | 8 | (CM) | 16 | 11 | 7 | 10 | 14 | 17 | 20 | 17 | 13 | 11 | 7 | 3 | 8 | 5 | 2 | 8 | 6 | 8 | 11 | 20 | 20 |
| 28 | 9 | 11 | 6 | 14 | 12 | 5 | 7 | 9 | 10 | 16 | 26 | 35 | 24 | 17 | 13 | 11 | 7 | 3 | 8 | 5 | 2 | 5 | 14 | 4 | 11 | 35 | 35 |
| 29 | 7 | 7 | 4 | 3 | 6 | 14 | 9 | 10 | (CM) | 14 | 13 | 16 | 25 | 15 | 11 | 12 | 5 | 8 | 4 | 4 | 7 | 12 | 6 | 6 | 9 | 25 | 25 |
| 30 | (CM) | 9 | 27 | 17 | (CM) | 30 | 9 | 5 | 6 | 6 | 20 | 22 | 26 | 19 | 11 | 10 | 9 | 10 | 6 | 4 | 3 | 3 | 3 | 4 | 12 | 30 | 30 |
| 31 | 4 | 11 | 8 | 3 | 4 | 29 | 22 | 10 | 20 | 9 | 13 | 12 | 13 | 11 | 10 | 19 | 8 | 10 | 9 | 10 | 9 | 4 | 6 | 13 | 11 | 29 | 29 |
| AV | 9 | 9 | 9 | 9 | 8 | 9 | 12 | 9 | 13 | 16 | 20 | 20 | 19 | 17 | 15 | 14 | 9 | 7 | 7 | 8 | 10 | 10 | 10 | 10 | 12 | 43 | 43 |
| PK | 24 | 23 | 27 | 18 | 17 | 30 | 43 | 16 | 22 | 40 | 41 | 38 | 38 | 32 | 32 | 29 | 24 | 19 | 16 | 16 | 23 | 24 | 29 | 29 | 19 | | |

SIGMA HORIZ. WIND DIR. @ 60M
DEGREES

CB-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|----|------|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|-----|------|----|
| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
| 1 | 2 | 5 | 4 | 5 | 15 | 6 | 6 | 4 | 17 | 14 | 13 | 15 | 11 | 9 | 10 | 9 | 8 | 8 | 8 | 10 | 11 | 9 | 12 | 11 | 11 | 9 | |
| 2 | 7 | 8 | 23 | 22 | 8 | 16 | 16 | 15 | 27 | 10 | 18 | 32 | 7 | 7 | 10 | 7 | 7 | 12 | 24 | 18 | 17 | 22 | 16 | 17 | 13 | 32 | |
| 3 | 4 | 4 | 5 | 9 | 7 | 34 | 18 | 9 | 13 | 8 | 8 | 11 | 45 | 21 | 35 | 23 | 9 | 4 | 4 | 5 | 3 | 2 | 1 | 3 | 10 | 34 | |
| 4 | 5 | 1 | 6 | 4 | 5 | 12 | 11 | 5 | 10 | 23 | 25 | 30 | 31 | 27 | 19 | 16 | 16 | 18 | 9 | 3 | 2 | 17 | 26 | 18 | 10 | 45 | |
| 5 | 6 | 7 | 2 | 6 | 1 | 7 | 0 | 9 | 9 | 18 | 21 | 32 | 24 | 26 | 14 | 15 | 16 | 5 | 5 | 3 | 0 | 13 | 4 | 13 | 12 | 31 | |
| 6 | 7 | 21 | 6 | 16 | 15 | 8 | 5 | 12 | 5 | 37 | 20 | 10 | 24 | 12 | 10 | 10 | 6 | 3 | 10 | 0 | 6 | 2 | 20 | 21 | 31 | 32 | |
| 7 | 8 | 3 | 9 | 7 | 1 | 2 | 0 | 0 | 17 | 11 | 13 | 18 | 27 | 19 | 11 | 11 | 9 | 5 | 4 | 22 | 3 | 5 | 17 | 22 | 10 | 27 | |
| 8 | 9 | 7 | 2 | 6 | 3 | 8 | 8 | 7 | 10 | 10 | 12 | 12 | 10 | 10 | 10 | 8 | 8 | 5 | 3 | 5 | 8 | 12 | 7 | 4 | 8 | 17 | |
| 9 | 10 | 3 | 3 | 4 | 4 | 5 | 8 | 6 | 7 | 10 | 10 | 9 | 10 | 17 | 14 | 10 | 8 | 4 | 9 | 8 | 10 | 8 | 3 | 5 | 8 | 17 | |
| 10 | 11 | 6 | 20 | 14 | 4 | 5 | 3 | 3 | 10 | 17 | 13 | 20 | 24 | 16 | 13 | 12 | 7 | 4 | 5 | 2 | 6 | 11 | 16 | 10 | 10 | 24 | |
| 11 | 12 | 30 | 18 | 1 | 8 | 3 | 5 | 2 | 6 | 11 | 10 | 17 | 14 | 16 | 15 | 15 | 12 | 4 | 5 | 4 | 9 | 11 | 16 | 12 | 11 | 30 | |
| 12 | 13 | 10 | 7 | 4 | 6 | 12 | 9 | 7 | 7 | 12 | 12 | 11 | 8 | 9 | 9 | 10 | 11 | 8 | 7 | 11 | 8 | 8 | 11 | 9 | 9 | 12 | |
| 13 | 14 | 13 | 18 | 18 | 12 | 19 | 5 | 4 | 6 | 8 | 10 | 4 | 7 | 6 | 6 | 6 | 6 | 12 | 9 | 18 | 18 | 3 | 6 | 9 | 9 | 18 | |
| 14 | 15 | 4 | 3 | 8 | 5 | 3 | 3 | 12 | 7 | 13 | 16 | 17 | 14 | 23 | 15 | 13 | 6 | 3 | 3 | 18 | 2 | 2 | 4 | 5 | 8 | 23 | |
| 15 | 16 | 11 | 6 | 10 | 9 | 7 | 5 | 10 | 8 | 17 | 29 | 23 | 19 | 10 | 10 | 12 | 10 | 7 | 7 | 7 | 4 | 5 | 6 | 5 | 10 | 29 | |
| 16 | 17 | (CM) | 7 | 6 | 8 | 12 | 15 | 12 | 9 | 12 | 17 | 24 | 15 | 12 | 13 | 8 | 6 | 3 | 1 | 2 | 12 | 13 | 3 | 2 | 10 | 24 | |
| 17 | 18 | 3 | 17 | 19 | 7 | 3 | 6 | 16 | 8 | 9 | 7 | 10 | 10 | 14 | 10 | 9 | 8 | 4 | 3 | 11 | 4 | 7 | 11 | 10 | 9 | 19 | |
| 18 | 19 | 9 | 8 | 7 | 3 | 7 | 4 | 3 | 10 | 17 | 28 | 20 | 16 | 17 | 10 | 8 | 6 | 4 | 3 | 4 | 5 | 4 | 6 | 4 | 9 | 28 | |
| 19 | 20 | 8 | 0 | 0 | 0 | 1 | 0 | 0 | 5 | 8 | 11 | 12 | 12 | 12 | 19 | 15 | 9 | 3 | 5 | 5 | 5 | 2 | 3 | (CM) | 5 | 15 | |
| 20 | 21 | 4 | 3 | 7 | 3 | 7 | 2 | 3 | 11 | 17 | 15 | 19 | 13 | 12 | 13 | 10 | 4 | 2 | 4 | 0 | 0 | 6 | 1 | 10 | 7 | 19 | |
| 21 | 22 | 4 | 6 | (CM) | 0 | 2 | 5 | 12 | 4 | 16 | 17 | 24 | 20 | 22 | 24 | 17 | 6 | 6 | 21 | 29 | 24 | 17 | 20 | 21 | 14 | 29 | |
| 22 | 23 | 20 | 14 | 6 | 16 | 11 | 7 | 7 | 6 | 21 | 11 | 8 | 9 | 10 | 12 | 9 | 6 | 4 | 3 | 3 | 6 | 13 | 11 | 12 | 10 | 21 | |
| 23 | 24 | 2 | 7 | 7 | 4 | 7 | 3 | 3 | 1 | 5 | 7 | 8 | 7 | 8 | 7 | 7 | 7 | 5 | 7 | 5 | 4 | 6 | 5 | 4 | 3 | 5 | 8 |
| 24 | 25 | 10 | 1 | 6 | 3 | 1 | 10 | 3 | 6 | 17 | 35 | 21 | 19 | 14 | 14 | 10 | 4 | 4 | 5 | 5 | 3 | 2 | 1 | 7 | 8 | 35 | |
| 25 | 26 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 10 | 11 | 12 | 11 | 13 | 16 | 13 | 9 | 5 | 3 | 7 | 6 | 2 | 0 | 11 | 6 | 6 | 16 | |
| 26 | 27 | 7 | 10 | 6 | 4 | 5 | 0 | 4 | 10 | 11 | 31 | 18 | 16 | 16 | 14 | 10 | 7 | 3 | 7 | 4 | 5 | 0 | 2 | 6 | 8 | 31 | |
| 27 | 28 | 3 | 2 | 8 | 5 | 8 | 7 | 8 | 2 | 17 | 14 | 18 | 30 | 17 | 15 | 12 | 8 | 5 | 3 | 8 | 10 | 5 | 6 | 3 | 5 | 9 | 30 |
| 28 | 29 | 1 | 2 | 0 | 0 | 4 | 3 | 8 | 13 | 11 | 12 | 13 | 19 | 15 | 9 | 9 | 3 | 5 | 5 | 3 | 4 | 3 | 6 | 5 | 7 | 19 | |
| 29 | 30 | 10 | 12 | 9 | 16 | 20 | 18 | 12 | 8 | 6 | 20 | 16 | 25 | 15 | 8 | 8 | 4 | 8 | 4 | 3 | 2 | 1 | 3 | 1 | 10 | 25 | |
| 30 | 31 | 3 | 4 | 4 | 2 | 14 | 15 | 11 | 12 | 12 | 10 | 10 | 10 | 8 | 8 | 15 | 4 | 5 | 5 | 9 | 8 | 12 | 10 | 0 | 8 | 15 | |
| AV | 7 | 8 | 7 | 6 | 6 | 7 | 8 | 6 | 11 | 14 | 17 | 17 | 16 | 14 | 12 | 11 | 8 | 6 | 6 | 7 | 8 | 8 | 8 | 9 | 9 | 45 | |
| PK | 30 | 28 | 23 | 22 | 20 | 34 | 31 | 15 | 27 | 37 | 35 | 32 | 45 | 27 | 35 | 23 | 16 | 18 | 24 | 29 | 24 | 26 | 21 | 31 | | | |

SIGMA HORIZ. WIND DIR. * 30M
DEGREES

CB-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|------|------|----|----|------|----|------|----|------|----|----|----|----|----|------|----|----|----|------|----|------|------|------|------|-----|------|
| 1 | 3 | 3 | 7 | 6 | 10 | 6 | 7 | 6 | 21 | 18 | 14 | 17 | 11 | 10 | 11 | 10 | 9 | 9 | 9 | 11 | 12 | 10 | 14 | 15 | 10 | 21 |
| 2 | 3 | 12 | 18 | 12 | 7 | 9 | 17 | 15 | 20 | 11 | 23 | 25 | 9 | 9 | 9 | 9 | 12 | 7 | 14 | 25 | 12 | 17 | 37 | 25 | 42 | 16 |
| 3 | 12 | 18 | 14 | 18 | 16 | 31 | 26 | 11 | 9 | 9 | 8 | 12 | 8 | 9 | 11 | 10 | 12 | 7 | 3 | 10 | 18 | 4 | 4 | 5 | 12 | 41 |
| 4 | 9 | 10 | 11 | 9 | 13 | 15 | 26 | 8 | 11 | 22 | 37 | 32 | 43 | 32 | 40 | 28 | 30 | 7 | 4 | 5 | 48 | 27 | 18 | 5 | 20 | 48 |
| 5 | 3 | 4 | 4 | 4 | 9 | 10 | 19 | 5 | 11 | 24 | 32 | 30 | 38 | 31 | 21 | 20 | 11 | 22 | 17 | 14 | (CM) | 16 | 9 | 14 | 16 | 38 |
| 6 | 20 | 14 | 14 | 9 | 8 | 11 | 8 | 8 | 12 | 19 | 25 | 34 | 27 | 28 | 16 | 20 | 21 | 7 | 4 | 6 | 43 | 31 | 39 | 15 | 18 | 43 |
| 7 | 6 | 19 | 38 | 9 | 4 | 4 | 4 | 5 | 12 | 46 | 35 | 25 | 29 | 22 | 16 | 13 | 7 | 4 | 12 | 17 | 15 | 3 | 7 | 21 | 15 | 46 |
| 8 | 7 | 15 | 13 | 14 | 23 | 17 | 9 | 15 | 30 | 14 | 18 | 28 | 29 | 20 | 12 | 10 | 17 | 7 | 6 | 24 | 5 | 12 | 22 | 14 | 16 | 30 |
| 9 | 6 | 9 | 9 | 3 | 13 | 4 | 10 | 10 | 20 | 11 | 13 | 14 | 10 | 11 | 10 | 9 | 9 | 6 | 5 | 7 | 13 | 18 | 9 | 6 | 10 | 20 |
| 10 | 5 | 4 | 5 | 3 | 6 | 9 | 6 | 8 | 11 | 12 | 9 | 11 | 13 | 19 | 18 | 12 | 9 | 5 | 13 | 9 | 11 | 10 | 5 | 8 | 9 | 19 |
| 11 | 8 | 30 | 14 | 13 | (CM) | 11 | 21 | 12 | 18 | 15 | 24 | 26 | 18 | 15 | 14 | 12 | 9 | 5 | 6 | 7 | 13 | 34 | 27 | 23 | 16 | 34 |
| 12 | 33 | 30 | 7 | 8 | 8 | 7 | 11 | 20 | 16 | 12 | 20 | 15 | 21 | 23 | 16 | 28 | 16 | 5 | 10 | 4 | 18 | 17 | 22 | 28 | 16 | 33 |
| 13 | 5 | 4 | 6 | 4 | 8 | 6 | 7 | 5 | 20 | 16 | 12 | 10 | 9 | 10 | 12 | 13 | 10 | 8 | 9 | 9 | 10 | 9 | 13 | 10 | 9 | 20 |
| 14 | 14 | 18 | 15 | 16 | 9 | 8 | 5 | 8 | 10 | 9 | 9 | 10 | 7 | 8 | 8 | 8 | 7 | 13 | 10 | 18 | 14 | 4 | 11 | 14 | 11 | 18 |
| 15 | 4 | 4 | 13 | 4 | 5 | 6 | 36 | 5 | 8 | 14 | 16 | 19 | 16 | 24 | 22 | 15 | 7 | 5 | 4 | 12 | 5 | 4 | 6 | 12 | 11 | 36 |
| 16 | 24 | 12 | 14 | 18 | 17 | 6 | 8 | 4 | 8 | 16 | 30 | 24 | 21 | 26 | (CM) | 13 | 12 | 7 | 9 | 4 | 13 | (CM) | 15 | 10 | 14 | 30 |
| 17 | 24 | 9 | 10 | 6 | 5 | 15 | 39 | 20 | 12 | 20 | 24 | 15 | 14 | 12 | 13 | 10 | 7 | 4 | 2 | 3 | 12 | 17 | 4 | 3 | 13 | 39 |
| 18 | 3 | 21 | 23 | 12 | 4 | 6 | (CM) | 7 | 16 | 23 | 29 | 21 | 18 | 19 | 12 | 9 | 8 | 5 | 5 | 12 | 5 | 8 | 12 | 11 | 10 | 23 |
| 19 | 9 | 14 | 26 | 15 | 14 | 11 | 11 | 9 | 13 | 15 | 12 | 12 | 15 | 13 | 10 | 17 | 10 | 3 | 7 | 7 | 9 | 7 | 7 | (CM) | 12 | 29 |
| 20 | (CM) | 13 | 9 | 12 | 6 | 8 | 23 | 21 | 29 | 14 | 17 | 19 | 15 | 13 | 14 | 12 | 5 | 2 | 17 | 7 | 6 | 12 | 9 | 14 | 13 | 29 |
| 21 | 22 | 17 | 14 | 6 | 16 | 7 | 8 | 7 | 18 | 19 | 25 | 31 | 22 | 23 | 26 | 18 | 9 | 8 | 20 | 42 | (CM) | 35 | 8 | 16 | 18 | 42 |
| 22 | 12 | 17 | 5 | 15 | 7 | 5 | 5 | 5 | 16 | 13 | 9 | 10 | 11 | 12 | 10 | 11 | 7 | 4 | 3 | 4 | 20 | 27 | 20 | 10 | 11 | 27 |
| 23 | 4 | 4 | 8 | 11 | 7 | 4 | 4 | 8 | 8 | 5 | 6 | 8 | 9 | 8 | 8 | 8 | 8 | 6 | 4 | 4 | 5 | 7 | 7 | 6 | 7 | 11 |
| 24 | 4 | 14 | 12 | 7 | 6 | 8 | 11 | 12 | 17 | 38 | 36 | 25 | 20 | 15 | 15 | 11 | 5 | 7 | 6 | 6 | 6 | 8 | 4 | 3 | 13 | 38 |
| 25 | 11 | 9 | 20 | 18 | 20 | 7 | 21 | 17 | (CM) | 16 | 12 | 12 | 15 | 16 | 16 | 10 | 5 | 6 | 7 | 7 | 6 | 3 | 13 | 25 | 13 | 25 |
| 26 | 8 | 9 | 20 | 14 | 5 | 9 | 25 | 8 | 19 | 15 | 17 | 18 | 15 | 10 | 7 | 9 | 3 | 7 | (CM) | 11 | (CM) | 8 | 16 | 12 | 25 | 35 |
| 27 | 10 | 14 | 9 | 16 | 15 | 7 | 8 | 16 | 15 | 18 | 24 | 35 | 18 | 17 | 12 | 9 | 6 | 3 | 13 | 9 | 5 | 9 | 9 | 19 | 13 | 35 |
| 28 | 18 | (CM) | 9 | 16 | 15 | 7 | 8 | 16 | 15 | 18 | 24 | 35 | 18 | 17 | 12 | 9 | 6 | 3 | 13 | 9 | 5 | 9 | 9 | 19 | 13 | 35 |
| 29 | 10 | 29 | 15 | 13 | 19 | 12 | 7 | 13 | 36 | 14 | 13 | 14 | 25 | 15 | 11 | 11 | 5 | 9 | 10 | 8 | 6 | 17 | 11 | 8 | 14 | 36 |
| 30 | 19 | 11 | 13 | 25 | 30 | 24 | 25 | 6 | 11 | 13 | 21 | 19 | 26 | 17 | 10 | 8 | 8 | 9 | 6 | 4 | 3 | 2 | 4 | 2 | 13 | 30 |
| 31 | 3 | 6 | 6 | 3 | 2 | 33 | 20 | 9 | 19 | 8 | 14 | 11 | 12 | 10 | 9 | 19 | 5 | 9 | 7 | 12 | 14 | 15 | (CM) | 16 | 11 | 33 |
| AV | 11 | 13 | 13 | 11 | 11 | 10 | 14 | 10 | 16 | 17 | 19 | 19 | 18 | 17 | 14 | 13 | 9 | 7 | 9 | 10 | 13 | 14 | 12 | 13 | 13 | 48 |
| PK | 33 | 30 | 38 | 25 | 30 | 33 | 39 | 25 | 36 | 46 | 37 | 35 | 43 | 32 | 40 | 28 | 30 | 22 | 25 | 42 | 48 | 37 | 39 | 42 | | |

TEMPERATURE 10M
DEGREE C

CB-TRACT
TRAILER AA23
OCT 1983
CATHERAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 8 | 7 | 7 | 6 | 7 | 7 | 8 | 8 | 11 | 10 | 11 | 17 | 16 | 14 | 17 | 16 | 13 | 12 | 11 | 9 | 9 | 9 | 7 | 7 | 10 | 17 |
| 2 | 6 | 4 | 5 | 4 | 5 | 4 | 4 | 6 | 7 | 6 | 5 | 6 | 3 | 4 | 3 | 3 | 4 | 5 | 3 | 3 | 3 | 2 | 3 | 4 | 4 | 7 |
| 3 | 4 | 2 | 1 | 1 | 0 | -1 | 0 | 3 | 6 | 8 | 13 | 14 | 16 | 17 | 17 | 18 | 18 | 15 | 11 | 9 | 8 | 7 | 6 | 4 | 5 | 8 |
| 4 | 5 | 6 | 7 | 6 | 6 | 5 | 4 | 9 | 12 | 16 | 18 | 19 | 21 | 21 | 19 | 20 | 19 | 16 | 13 | 11 | 10 | 8 | 7 | 8 | 12 | 18 |
| 5 | 6 | 7 | 9 | 6 | 7 | 7 | 6 | 9 | 12 | 16 | 18 | 18 | 21 | 21 | 17 | 17 | 17 | 17 | 13 | 12 | 10 | 9 | 9 | 9 | 12 | 21 |
| 6 | 7 | 8 | 9 | 6 | 7 | 5 | 5 | 7 | 12 | 16 | 18 | 19 | 20 | 21 | 21 | 18 | 14 | 13 | 11 | 10 | 9 | 11 | 9 | 7 | 12 | 19 |
| 7 | 8 | 6 | 6 | 6 | 5 | 10 | 10 | 11 | 14 | 16 | 16 | 18 | 19 | 19 | 19 | 19 | 18 | 16 | 13 | 11 | 11 | 11 | 12 | 12 | 13 | 19 |
| 8 | 9 | 9 | 10 | 11 | 12 | 8 | 6 | 6 | 8 | 9 | 8 | 7 | 8 | 13 | 13 | 14 | 13 | 11 | 8 | 7 | 6 | 6 | 4 | 4 | 9 | 14 |
| 9 | 12 | 12 | 11 | 12 | 1 | 1 | 1 | 1 | 7 | 7 | 12 | 13 | 13 | 13 | 13 | 12 | 10 | 9 | 7 | 5 | 4 | 4 | 3 | 2 | 6 | 15 |
| 10 | 4 | 3 | 2 | 2 | 4 | 3 | 3 | 5 | 6 | 9 | 14 | 17 | 18 | 18 | 17 | 18 | 17 | 14 | 12 | 11 | 11 | 7 | 5 | 3 | 10 | 18 |
| 11 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 6 | 3 | 4 | 4 | 3 | 4 | 4 | 6 | 7 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 3 | 7 |
| 12 | 5 | 6 | 4 | 4 | 4 | 0 | -1 | 2 | 6 | 8 | 9 | 9 | 13 | 12 | 12 | 12 | 10 | 8 | 4 | 3 | 3 | 3 | 2 | 2 | 5 | 13 |
| 13 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 6 | 10 | 14 | 14 | 13 | 12 | 13 | 13 | 13 | 11 | 7 | 7 | 5 | 4 | 4 | 4 | 6 | 14 |
| 14 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 8 | 12 | 14 | 16 | 17 | 17 | 16 | 14 | 13 | 12 | 11 | 10 | 11 | 9 | 9 | 9 | 9 | 17 |
| 15 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 6 | 10 | 14 | 16 | 17 | 17 | 16 | 14 | 13 | 12 | 11 | 10 | 11 | 9 | 9 | 9 | 9 | 17 |
| 16 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 6 | 10 | 14 | 16 | 17 | 17 | 16 | 14 | 13 | 12 | 11 | 10 | 11 | 9 | 9 | 9 | 9 | 17 |
| 17 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 8 | 12 | 14 | 16 | 17 | 17 | 16 | 14 | 13 | 12 | 11 | 10 | 11 | 9 | 9 | 9 | 9 | 17 |
| 18 | 8 | 8 | 7 | 8 | 7 | 6 | 6 | 6 | 7 | 10 | 11 | 13 | 13 | 13 | 12 | 11 | 10 | 7 | 5 | 3 | 2 | 1 | 1 | 1 | 4 | 12 |
| 19 | 3 | 2 | 1 | -2 | -2 | -3 | -2 | -2 | 2 | 5 | 8 | 9 | 11 | 12 | 12 | 11 | 10 | 7 | 5 | 3 | 2 | 1 | 1 | 1 | 4 | 12 |
| 20 | -2 | -1 | -1 | -2 | -2 | -3 | -2 | -2 | 4 | 6 | 11 | 13 | 15 | 16 | 16 | 16 | 15 | 12 | 9 | 7 | 7 | 7 | 6 | 4 | 6 | 16 |
| 21 | 3 | 3 | 2 | 1 | 1 | 1 | 2 | 4 | 8 | 13 | 17 | 19 | 21 | 21 | 20 | 18 | 16 | 13 | 10 | 9 | 8 | 8 | 7 | 4 | 9 | 19 |
| 22 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 4 | 6 | 11 | 15 | 18 | 19 | 19 | 19 | 18 | 16 | 14 | 11 | 9 | 8 | 7 | 6 | 4 | 10 | 21 |
| 23 | 7 | 7 | 7 | 6 | 6 | 4 | 4 | 7 | 11 | 16 | 17 | 19 | 19 | 19 | 18 | 18 | 16 | 13 | 10 | 9 | 8 | 7 | 6 | 4 | 11 | 19 |
| 24 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 5 | 6 | 4 | 3 | 2 | 1 | -1 | -2 | 3 | 6 | 19 |
| 25 | -2 | -2 | -3 | -3 | -3 | -4 | -4 | -2 | 6 | 11 | 13 | 15 | 16 | 17 | 17 | 15 | 13 | 9 | 7 | 6 | 4 | 3 | 2 | 4 | 8 | 20 |
| 26 | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 7 | 11 | 15 | 18 | 20 | 21 | 21 | 20 | 19 | 16 | 12 | 11 | 9 | 7 | 6 | 6 | 7 | 11 | 21 |
| 27 | 6 | 5 | 6 | 5 | 4 | 3 | 3 | 4 | 12 | 16 | 18 | 19 | 19 | 18 | 17 | 16 | 14 | 12 | 11 | 9 | 8 | 7 | 6 | 7 | 10 | 19 |
| 28 | 6 | 5 | 4 | 4 | 4 | 3 | 3 | 7 | 13 | 16 | 17 | 19 | 19 | 18 | 17 | 15 | 12 | 9 | 8 | 8 | 8 | 8 | 7 | 7 | 10 | 19 |
| 29 | 6 | 5 | 4 | 4 | 4 | 3 | 3 | 7 | 13 | 16 | 17 | 19 | 19 | 18 | 17 | 15 | 12 | 9 | 8 | 8 | 8 | 8 | 7 | 7 | 10 | 19 |
| 30 | 7 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 11 | 13 | 17 | 19 | 18 | 16 | 14 | 13 | 12 | 11 | 9 | 8 | 8 | 6 | 5 | 6 | 9 | 16 |
| 31 | 8 | 7 | 7 | 8 | 8 | 7 | 6 | 7 | 8 | 9 | 9 | 13 | 16 | 16 | 13 | 14 | 12 | 9 | 8 | 7 | 6 | 6 | 5 | 6 | 9 | 16 |

MONTHLY MINIMUM = -4

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| AV | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 8 | 11 | 13 | 14 | 15 | 15 | 15 | 15 | 14 | 11 | 9 | 8 | 7 | 6 | 5 | 5 | 8 | 21 |
| PK | 12 | 12 | 11 | 11 | 12 | 10 | 10 | 11 | 14 | 17 | 19 | 20 | 21 | 21 | 21 | 21 | 19 | 17 | 13 | 12 | 11 | 11 | 12 | 12 | 12 | 21 |
| MN | -2 | -2 | -3 | -3 | -3 | -4 | -4 | -2 | 2 | 1 | 2 | 2 | 3 | 4 | 3 | 3 | 4 | 4 | 3 | 2 | 1 | -1 | -1 | -1 | -2 | |

TEMPERATURE ■ 30M
DEGREE C

CB-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|----|
| 1 | 8 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 8 | 11 | 15 | 14 | 10 | 15 | 14 | 13 | 11 | 10 | 9 | 9 | 7 | 3 | 4 | 4 | 9 | 15 |
| 2 | 6 | 6 | 6 | 6 | 5 | 5 | 5 | 6 | 7 | 7 | 5 | 6 | 5 | 4 | 3 | 3 | 4 | 5 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 7 |
| 3 | 5 | 4 | 4 | 4 | 6 | 5 | 4 | 4 | 7 | 7 | 12 | 13 | 14 | 15 | 16 | 17 | 17 | 14 | 9 | 4 | 4 | -6 | 5 | 4 | 4 | 5 | 7 |
| 4 | 5 | 4 | 2 | 3 | 7 | 6 | 5 | 9 | 12 | 13 | 13 | 14 | 15 | 16 | 15 | 16 | 16 | 12 | 13 | 7 | 11 | 11 | 11 | 11 | 11 | 16 | 16 |
| 5 | 5 | 7 | 7 | 8 | 7 | 1 | 5 | 9 | 13 | 16 | 17 | 17 | 17 | 16 | 16 | 16 | 13 | 12 | 1 | 8 | 11 | 11 | 11 | 8 | 11 | 17 | 17 |
| 6 | 7 | 10 | 9 | 4 | 4 | 8 | 6 | 7 | 12 | 14 | 16 | 8 | 16 | 14 | 9 | 10 | 10 | 6 | 9 | 11 | 9 | 9 | 9 | 9 | 8 | 9 | 16 |
| 7 | 8 | 7 | 3 | 6 | 7 | 6 | 6 | 10 | 9 | 13 | 14 | 16 | 16 | 17 | 16 | 16 | 14 | 13 | 9 | 12 | 11 | 12 | 13 | 13 | 17 | 13 | 17 |
| 8 | 9 | 10 | 11 | 11 | 11 | 11 | 11 | 10 | 9 | 13 | 14 | 16 | 16 | 17 | 16 | 16 | 14 | 13 | 9 | 7 | 7 | 4 | 5 | 4 | 4 | 8 | 12 |
| 9 | 12 | 12 | 12 | 12 | 12 | 2 | 2 | 3 | 7 | 7 | 7 | 6 | 7 | 12 | 11 | 12 | 11 | 8 | 2 | 3 | 6 | 4 | 2 | 2 | 2 | 6 | 11 |
| 10 | 4 | 4 | 3 | 2 | 2 | 1 | 2 | 2 | 6 | 8 | 10 | 11 | 11 | 11 | 11 | 13 | 13 | 11 | 7 | 7 | 4 | 3 | 2 | -2 | -2 | 6 | 11 |
| 11 | -1 | -1 | 1 | 2 | 2 | 4 | 4 | 5 | 6 | 9 | 13 | 16 | 16 | 16 | 16 | 17 | 16 | 14 | 13 | 11 | 11 | 7 | 6 | 3 | 9 | 17 | 17 |
| 12 | 0 | 0 | -1 | 2 | 4 | 4 | 4 | 6 | 6 | 10 | 13 | 14 | 14 | 14 | 14 | 15 | 16 | 5 | 3 | 2 | 2 | 2 | 3 | 2 | 4 | 6 | 6 |
| 13 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 6 | 7 | 9 | 9 | 11 | 11 | 11 | 9 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 3 | 5 | 11 |
| 14 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 5 | 6 | 7 | 9 | 12 | 12 | 12 | 12 | 12 | 11 | 6 | 6 | 4 | 4 | 4 | 5 | 3 | 5 | 11 |
| 15 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 6 | 10 | 13 | 14 | 14 | 14 | 14 | 14 | 13 | 12 | 11 | 8 | 8 | 4 | 0 | 1 | 8 | 13 | 14 |
| 16 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 5 | 8 | 11 | 13 | 14 | 14 | 14 | 14 | 13 | 13 | 12 | 11 | 6 | 8 | 4 | 0 | 1 | 8 | 14 | 14 |
| 17 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 6 | 7 | 9 | 11 | 12 | 11 | 9 | 13 | 13 | 13 | 12 | 4 | 5 | 9 | 6 | 3 | 4 | 4 | 8 | 13 |
| 18 | 1 | 0 | 8 | 8 | 7 | 6 | 6 | -2 | 1 | 4 | 6 | 8 | 9 | 10 | 11 | 11 | 9 | 7 | 6 | 4 | 3 | 3 | 3 | 1 | 4 | 11 | 11 |
| 19 | 3 | -2 | -1 | -1 | -2 | -2 | -2 | -2 | 1 | 4 | 10 | 12 | 13 | 14 | 14 | 13 | 11 | 10 | 11 | 7 | 7 | 3 | 4 | 0 | 5 | 14 | 14 |
| 20 | -1 | 3 | 2 | 2 | 1 | 1 | 1 | 3 | 4 | 8 | 13 | 16 | 17 | 17 | 17 | 17 | 16 | 13 | 11 | 9 | 8 | 4 | 6 | 6 | 8 | 17 | 17 |
| 21 | 3 | 4 | 2 | 1 | 3 | 4 | 4 | 6 | 9 | 10 | 13 | 16 | 18 | 19 | 18 | 18 | 17 | 14 | 8 | 1 | 2 | 5 | 7 | 8 | 9 | 19 | 19 |
| 22 | 8 | 6 | 4 | 6 | 7 | 6 | 6 | 7 | 11 | 13 | 16 | 16 | 17 | 17 | 16 | 12 | 11 | 6 | 5 | 9 | 7 | 7 | 7 | 6 | 10 | 17 | 17 |
| 23 | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 6 | 4 | 2 | 1 | 1 | 0 | -1 | 3 | 6 | 6 |
| 24 | 6 | 4 | 5 | 3 | 3 | 3 | 3 | -2 | 2 | 6 | 8 | 11 | 10 | 13 | 12 | 13 | 12 | 9 | 4 | 3 | 4 | 4 | 3 | 2 | 7 | 13 | 13 |
| 25 | -1 | -2 | -2 | -1 | -2 | -2 | -3 | -2 | 5 | 9 | 12 | 13 | 14 | 14 | 15 | 15 | 13 | 7 | 11 | 9 | 3 | 4 | 3 | 6 | 7 | 15 | 15 |
| 26 | 3 | 2 | 2 | 2 | 4 | 4 | 3 | 8 | 11 | 13 | 12 | 14 | 17 | 18 | 17 | 17 | 14 | 13 | 10 | 9 | 6 | 8 | 7 | 8 | 10 | 18 | 18 |
| 27 | 7 | 6 | 7 | 6 | 4 | 4 | 4 | 7 | 11 | 14 | 15 | 14 | 18 | 17 | 15 | 14 | 13 | 12 | 11 | 9 | 4 | 2 | 6 | 9 | 18 | 18 | 18 |
| 28 | 7 | 6 | 7 | -2 | 5 | 4 | 4 | 4 | 7 | 11 | 13 | 11 | 16 | 14 | 6 | 9 | 10 | 4 | 7 | 8 | 4 | -6 | -6 | -6 | 7 | 16 | 16 |
| 29 | 9 | 6 | 5 | 5 | 4 | 2 | 3 | 7 | 9 | 11 | 13 | 14 | 16 | 14 | 13 | 13 | 13 | 10 | -4 | 2 | 5 | 8 | 7 | 7 | 8 | 16 | 16 |
| 30 | -2 | 6 | 6 | 5 | 4 | 2 | 3 | 7 | 9 | 11 | 13 | 14 | 16 | 14 | 13 | 13 | 13 | 7 | 8 | 8 | 7 | 6 | 6 | 6 | 7 | 8 | 16 |
| 31 | 8 | 7 | 8 | 8 | 9 | 6 | 4 | 3 | 0 | 9 | 7 | 9 | 13 | 13 | 7 | 7 | 9 | 7 | 8 | 8 | 7 | 6 | 6 | 6 | 7 | 7 | 13 |
| AV | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 5 | 7 | 10 | 11 | 12 | 12 | 13 | 12 | 12 | 12 | 10 | 7 | 6 | 6 | 5 | 4 | 4 | 4 | 7 | 19 |
| PK | 12 | 12 | 12 | -2 | 11 | 11 | -3 | 10 | 13 | 16 | 17 | 18 | 18 | 19 | 18 | 18 | 17 | 16 | 13 | 13 | 12 | 11 | 12 | 13 | -6 | 19 | 19 |
| MIN | -2 | -2 | -3 | -3 | -2 | -3 | -3 | -2 | 0 | 1 | 1 | 2 | 3 | 3 | 3 | 3 | 4 | 3 | -4 | 1 | 1 | -6 | -6 | -6 | -6 | 7 | 19 |

MONTHLY MINIMUM = -6

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|----|
| AV | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 5 | 7 | 10 | 11 | 12 | 12 | 13 | 12 | 12 | 12 | 10 | 7 | 6 | 6 | 5 | 4 | 4 | 4 | 7 | 19 |
| PK | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 10 | 13 | 16 | 17 | 18 | 18 | 19 | 18 | 18 | 17 | 16 | 13 | 13 | 12 | 11 | 12 | 13 | -6 | | |
| MN | -2 | -2 | -2 | -3 | -2 | -3 | -3 | -2 | 0 | 1 | 1 | 2 | 3 | 3 | 3 | 3 | 4 | 3 | -4 | 1 | 1 | -6 | -6 | | | | |

TEMPERATURE @ 60M
DEGREE C

CB-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 9 | 9 | 8 | 8 | 7 | 8 | 8 | 8 | 10 | 9 | 11 | 16 | 15 | 13 | 16 | 14 | 13 | 12 | 11 | 9 | 10 | 9 | 7 | 7 | 10 | |
| 2 | 6 | 6 | 5 | 6 | 4 | 5 | 4 | 6 | 7 | 7 | 4 | 7 | 3 | 5 | 3 | 2 | 3 | 5 | 4 | 3 | 4 | 3 | 4 | 4 | 5 | |
| 3 | 4 | 3 | 2 | 8 | 6 | 7 | 9 | 4 | 12 | 9 | 12 | 13 | 14 | 15 | 15 | 6 | 16 | 14 | 11 | 11 | 9 | 8 | 8 | 9 | 16 | |
| 4 | 5 | 7 | 8 | 8 | 7 | 8 | 8 | 10 | 13 | 15 | 17 | 18 | 19 | 19 | 19 | 18 | 17 | 16 | 13 | 12 | 12 | 11 | 11 | 12 | 18 | |
| 5 | 6 | 9 | 8 | 8 | 9 | 9 | 9 | 11 | 13 | 16 | 18 | 17 | 17 | 17 | 16 | 14 | 14 | 14 | 13 | 11 | 12 | 12 | 11 | 10 | 13 | |
| 6 | 11 | 10 | 9 | 7 | 7 | 7 | 9 | 11 | 13 | 14 | 15 | 17 | 18 | 18 | 18 | 17 | 17 | 16 | 14 | 12 | 12 | 12 | 11 | 13 | 19 | |
| 7 | 8 | 9 | 11 | 12 | 11 | 11 | 11 | 11 | 13 | 14 | 15 | 17 | 18 | 18 | 18 | 17 | 17 | 15 | 14 | 13 | 12 | 12 | 12 | 13 | 14 | |
| 8 | 10 | 12 | 12 | 12 | 12 | 9 | 6 | 6 | 7 | 8 | 7 | 6 | 8 | 12 | 12 | 12 | 12 | 10 | 9 | 7 | 6 | 5 | 4 | 9 | 12 | |
| 9 | 11 | 5 | 3 | 2 | 2 | 2 | 3 | 3 | 6 | 8 | 10 | 11 | 11 | 11 | 11 | 11 | 9 | 9 | 8 | 6 | 5 | 4 | 4 | 6 | 11 | |
| 10 | 12 | 3 | 3 | 2 | 2 | 2 | 2 | 4 | 9 | 14 | 16 | 17 | 16 | 16 | 16 | 16 | 14 | 13 | 11 | 8 | 8 | 6 | 6 | 7 | 13 | |
| 11 | 13 | 6 | 7 | 6 | 6 | 5 | 6 | 7 | 9 | 14 | 16 | 17 | 16 | 16 | 17 | 16 | 14 | 13 | 12 | 12 | 11 | 8 | 5 | 3 | 10 | |
| 12 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 6 | 8 | 4 | 4 | 3 | 4 | 4 | 5 | 6 | 4 | 3 | 2 | 3 | 3 | 3 | 3 | 4 | |
| 13 | 4 | 4 | 3 | 2 | 2 | 2 | 1 | 3 | 6 | 7 | 7 | 8 | 8 | 11 | 11 | 11 | 9 | 7 | 7 | 6 | 4 | 4 | 4 | 5 | 8 | |
| 14 | 5 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 9 | 12 | 13 | 15 | 16 | 15 | 14 | 14 | 13 | 12 | 12 | 10 | 11 | 10 | 9 | 7 | 12 | |
| 15 | 16 | 5 | 6 | 6 | 5 | 5 | 4 | 6 | 9 | 12 | 13 | 15 | 16 | 15 | 14 | 14 | 13 | 12 | 12 | 11 | 10 | 9 | 8 | 7 | 16 | |
| 16 | 17 | 9 | 8 | 8 | 7 | 7 | 6 | 6 | 9 | 11 | 12 | 13 | 13 | 13 | 13 | 13 | 13 | 12 | 11 | 10 | 9 | 8 | 6 | 4 | 13 | |
| 17 | 18 | 3 | 8 | 8 | 7 | 7 | 6 | 6 | 9 | 11 | 12 | 9 | 10 | 11 | 10 | 9 | 9 | 7 | 6 | 4 | 3 | 3 | 2 | 1 | 11 | |
| 18 | 19 | 2 | 1 | 1 | -2 | -2 | -2 | -2 | 1 | 4 | 8 | 12 | 13 | 14 | 14 | 14 | 14 | 11 | 9 | 8 | 7 | 6 | 4 | 4 | 6 | |
| 19 | 20 | 0 | -1 | -1 | -2 | -2 | -2 | 4 | 7 | 11 | 13 | 16 | 17 | 17 | 17 | 16 | 13 | 11 | 9 | 8 | 7 | 7 | 7 | 9 | 17 | |
| 20 | 21 | 4 | 4 | 4 | 4 | 4 | 4 | 7 | 9 | 13 | 17 | 18 | 18 | 19 | 18 | 18 | 17 | 14 | 12 | 10 | 9 | 9 | 8 | 11 | 19 | |
| 21 | 22 | 7 | 6 | 6 | 8 | 7 | 7 | 8 | 12 | 15 | 16 | 17 | 18 | 18 | 17 | 17 | 16 | 13 | 12 | 12 | 11 | 9 | 8 | 7 | 12 | |
| 22 | 23 | 9 | 8 | 9 | 8 | 8 | 7 | 8 | 2 | 1 | 1 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 4 | 2 | 2 | 1 | 1 | 0 | 3 | |
| 23 | 24 | 7 | 6 | 6 | 4 | 4 | 4 | 2 | 1 | 2 | 6 | 8 | 11 | 13 | 14 | 14 | 12 | 9 | 8 | 7 | 5 | 4 | 3 | 2 | 5 | |
| 24 | 25 | -1 | -2 | -3 | -2 | -2 | -3 | -1 | 2 | 6 | 8 | 11 | 13 | 14 | 14 | 13 | 12 | 9 | 8 | 7 | 5 | 4 | 3 | 2 | 14 | |
| 25 | 26 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 6 | 9 | 12 | 14 | 16 | 17 | 18 | 18 | 16 | 13 | 11 | 10 | 8 | 7 | 7 | 9 | 18 | |
| 26 | 27 | 7 | 7 | 8 | 6 | 4 | 5 | 8 | 12 | 16 | 18 | 19 | 19 | 19 | 19 | 18 | 15 | 13 | 11 | 9 | 8 | 8 | 9 | 11 | 19 | |
| 27 | 28 | 8 | 7 | 7 | 7 | 6 | 5 | 6 | 8 | 11 | 14 | 17 | 18 | 18 | 17 | 17 | 16 | 14 | 13 | 11 | 10 | 9 | 8 | 11 | 18 | |
| 28 | 29 | 7 | 7 | 7 | 6 | 6 | 5 | 6 | 8 | 12 | 14 | 16 | 17 | 18 | 15 | 16 | 14 | 12 | 11 | 10 | 10 | 9 | 9 | 10 | 18 | |
| 29 | 30 | 8 | 8 | 8 | 7 | 7 | 7 | 8 | 10 | 11 | 13 | 16 | 18 | 16 | 15 | 16 | 13 | 12 | 11 | 11 | 9 | 9 | 9 | 11 | 18 | |
| 30 | 31 | 9 | 9 | 9 | 9 | 8 | 7 | 8 | 9 | 9 | 8 | 12 | 14 | 14 | 12 | 13 | 12 | 10 | 8 | 9 | 8 | 8 | 7 | 7 | 10 | |
| AV | 6 | 12 | 6 | 5 | 5 | 4 | 4 | 6 | 8 | 10 | 12 | 13 | 13 | 14 | 14 | 14 | 13 | 11 | 10 | 9 | 8 | 7 | 7 | 6 | 9 | |
| PK | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 13 | 16 | 18 | 19 | 19 | 19 | 19 | 19 | 18 | 17 | 14 | 13 | 12 | 12 | 12 | 13 | 19 | |
| MIN | -1 | -2 | -2 | -3 | -2 | -3 | -2 | -2 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 3 | 4 | 4 | 2 | 1 | 1 | 1 | 0 | 19 | |

MONTHLY MINIMUM = -3

DELTA TEMPERATURE 60-10M
DEGREE C*100

CB-TRACT
TRAILER AA23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|------|
| 1 | 83 | 133 | 56 | 94 | 50 | 17 | 11 | -83 | -56 | -39 | -122 | -111 | -100 | -128 | -106 | -83 | -61 | -28 | -17 | -11 | -17 | -28 | -33 | -24 | 133 | |
| 2 | -44 | -17 | 0 | -6 | -33 | -28 | -17 | -56 | -67 | -56 | -61 | -56 | -67 | -61 | -56 | -67 | -6 | 39 | 39 | 89 | 83 | 72 | 72 | -13 | 89 | |
| 3 | 56 | 67 | 50 | 22 | 22 | 17 | 6 | -33 | -39 | -61 | -81 | -83 | -50 | -44 | -61 | -56 | -72 | -50 | 33 | 94 | 100 | 94 | 94 | 5 | 100 | |
| 4 | 78 | 33 | 11 | 100 | 206 | 161 | 128 | 56 | 144 | 50 | -119 | -184 | -206 | -189 | -178 | -211 | -183 | -117 | 61 | 128 | 111 | 150 | 194 | 144 | 7 | 206 |
| 5 | 139 | 89 | 100 | 144 | 111 | 150 | 156 | 144 | 50 | -111 | -194 | -178 | -222 | -156 | -144 | -211 | -178 | -100 | -11 | 56 | 44 | 139 | 194 | 150 | 7 | 194 |
| 6 | 211 | 228 | 150 | 194 | 167 | 83 | 144 | 33 | 78 | -128 | -167 | -161 | -211 | -228 | -161 | -217 | -139 | -67 | 106 | 167 | 144 | 128 | 128 | 133 | 26 | 228 |
| 7 | 161 | 83 | 67 | 167 | 169 | 150 | 183 | 194 | 50 | -133 | -162 | -122 | -100 | -83 | -72 | -72 | -39 | 133 | 200 | 67 | 128 | 89 | 233 | 57 | 233 | |
| 8 | 217 | 139 | 172 | 150 | 150 | 144 | 217 | 44 | -83 | -161 | -189 | -211 | -206 | -206 | -133 | -67 | -61 | 22 | 72 | 83 | 117 | 56 | 50 | 20 | 217 | |
| 9 | 78 | 83 | 78 | 44 | 56 | 33 | 22 | 11 | -128 | -111 | -128 | -150 | -167 | -194 | -228 | -172 | -128 | -150 | 17 | 106 | 150 | 117 | 33 | 33 | -29 | 150 |
| 10 | 33 | 33 | 67 | 83 | 50 | 28 | -28 | -39 | -72 | -111 | -106 | -83 | -89 | -150 | -139 | -144 | -111 | -56 | 28 | 50 | 50 | 11 | 33 | 17 | -27 | 83 |
| 11 | 83 | 61 | 67 | 6 | 39 | 56 | 144 | 28 | -72 | -111 | -172 | -206 | -167 | -156 | -128 | -128 | -89 | -50 | 50 | 106 | 44 | 111 | 128 | 111 | -10 | 144 |
| 12 | 33 | 44 | 33 | 28 | 94 | 133 | 122 | 128 | -61 | -144 | -161 | -144 | -167 | -194 | -194 | -172 | -183 | -100 | 50 | 72 | 183 | 156 | 94 | 144 | -9 | 183 |
| 13 | 94 | 89 | 78 | 128 | 217 | 194 | 194 | 194 | 0 | -83 | -117 | -133 | -172 | -156 | -106 | -144 | -100 | -22 | 22 | 67 | 11 | -17 | -11 | -56 | 7 | 217 |
| 14 | -22 | 17 | 0 | -22 | -6 | 6 | 28 | -6 | -67 | 0 | -6 | -67 | -22 | -56 | -44 | -72 | -106 | -56 | -17 | -6 | 22 | 44 | 94 | 83 | -12 | 94 |
| 15 | 183 | 278 | 178 | 178 | 183 | 183 | 133 | 111 | -44 | -128 | -100 | -150 | -128 | -228 | -200 | -172 | -122 | -50 | 139 | 172 | 94 | 156 | 200 | 183 | 44 | 278 |
| 16 | 156 | 139 | 156 | 100 | 156 | 200 | 172 | 144 | 100 | -33 | -194 | -189 | -128 | -94 | -122 | -89 | -83 | -22 | 128 | 172 | 150 | 94 | 100 | 161 | 49 | 200 |
| 17 | 156 | 83 | 150 | 172 | 111 | 200 | 178 | 117 | 83 | -83 | -100 | -133 | -167 | -139 | -106 | -83 | -44 | 0 | 89 | 122 | 39 | 0 | 28 | 83 | 31 | 200 |
| 18 | 33 | 22 | 44 | 6 | -6 | 6 | 17 | -6 | -17 | -78 | -100 | -106 | -106 | -94 | -144 | -122 | -89 | -6 | 72 | 106 | 128 | 72 | 28 | 6 | -14 | 128 |
| 19 | 22 | 22 | 67 | 56 | 44 | 94 | 83 | 6 | -106 | -172 | -211 | -244 | -206 | -194 | -167 | -133 | -111 | -17 | 44 | 72 | 100 | 100 | 94 | 128 | -26 | 128 |
| 20 | 150 | 56 | 6 | 33 | 33 | 6 | 28 | 156 | 50 | -128 | -150 | -172 | -183 | -183 | -156 | -178 | -150 | -33 | 44 | 44 | 22 | 117 | 78 | 56 | -19 | 156 |
| 21 | 144 | 111 | 78 | 189 | 117 | 78 | 94 | 156 | 94 | -28 | -178 | -167 | -222 | -222 | -194 | -178 | -106 | -28 | 61 | -61 | 94 | 100 | 128 | 244 | 13 | 244 |
| 22 | 217 | 156 | 211 | 128 | 94 | 100 | 156 | 172 | 44 | -67 | -67 | -172 | -211 | -217 | -189 | -206 | -133 | -6 | 139 | 94 | 111 | 133 | 172 | 183 | 35 | 217 |
| 23 | 200 | 150 | 156 | 200 | 150 | 239 | 239 | 172 | 44 | -100 | -117 | -144 | -139 | -161 | -178 | -156 | -100 | 28 | 189 | 278 | 256 | 156 | 200 | 67 | 68 | 278 |
| 24 | 150 | 117 | 89 | 83 | 56 | 44 | 39 | -22 | -67 | -78 | -83 | -83 | -89 | -83 | -83 | -72 | -61 | 6 | 17 | 33 | 28 | 67 | 94 | 78 | 7 | 150 |
| 25 | 67 | -17 | 6 | 33 | 100 | 100 | 139 | 28 | 11 | -122 | -139 | -217 | -250 | -206 | -222 | -150 | -106 | -17 | 44 | 67 | 94 | 61 | 78 | 122 | -21 | 139 |
| 26 | 122 | 94 | 167 | 217 | 117 | 161 | 100 | 72 | 6 | -183 | -167 | -144 | -222 | -233 | -233 | -161 | -122 | -39 | 50 | 89 | 83 | 78 | 183 | 239 | 11 | 239 |
| 27 | 211 | 256 | 150 | 161 | 172 | 122 | 122 | 78 | 144 | 0 | -56 | -172 | -217 | -217 | -150 | -117 | -22 | 83 | 72 | -56 | 106 | 206 | 156 | 233 | 53 | 256 |
| 28 | 206 | 117 | 83 | 122 | 178 | 167 | 178 | 100 | 78 | -83 | -139 | -222 | -233 | -228 | -133 | -111 | -106 | -11 | 33 | 56 | 50 | 67 | 83 | 67 | 13 | 206 |
| 29 | 122 | 194 | 222 | 144 | 122 | 211 | 144 | 178 | 78 | -156 | -183 | -133 | -250 | -183 | -89 | -144 | -78 | -22 | 56 | 72 | 156 | 156 | 139 | 144 | 38 | 222 |
| 30 | 156 | 167 | 244 | 144 | 150 | 150 | 122 | 161 | 111 | 44 | -56 | -172 | -239 | -217 | -211 | -117 | -61 | -39 | -22 | 50 | 67 | 106 | 61 | 178 | 32 | 244 |
| 31 | 83 | 133 | 72 | 128 | 111 | 72 | 122 | 144 | 33 | -22 | -50 | -117 | -144 | -172 | -94 | -128 | -89 | 33 | 72 | 139 | 161 | 161 | 167 | 94 | 38 | 167 |
| AVG | 115 | 102 | 97 | 104 | 103 | 106 | 106 | 87 | 13 | -86 | -123 | -150 | -163 | -163 | -146 | -136 | -101 | -29 | 58 | 79 | 91 | 99 | 102 | 111 | 12 | |
| PKP | 217 | 278 | 244 | 217 | 217 | 239 | 239 | 217 | 144 | 4 | -6 | -61 | -22 | -44 | -44 | -56 | -22 | 133 | 200 | 278 | 256 | 200 | 244 | | 278 | |
| MIN | -44 | -17 | 0 | -22 | -33 | -28 | -28 | -39 | -128 | -183 | -211 | -224 | -250 | -233 | -233 | -217 | -183 | -150 | -28 | -61 | -11 | -17 | -28 | -56 | | |

MONTHLY MINIMUM = -250

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|----|-----|
| AV | 115 | 102 | 97 | 104 | 103 | 106 | 106 | 87 | 13 | -86 | -123 | -150 | -163 | -163 | -146 | -136 | -101 | -29 | 58 | 79 | 91 | 99 | 102 | 111 | 12 | |
| PK | 217 | 278 | 244 | 217 | 239 | 239 | 217 | 144 | 44 | -6 | -61 | -22 | -44 | -44 | -44 | -56 | -22 | 133 | 200 | 278 | 256 | 206 | 200 | 244 | | 278 |
| MM | -44 | -17 | 0 | -22 | -33 | -28 | -39 | -128 | -183 | -211 | -244 | -250 | -233 | -233 | -217 | -183 | -150 | -28 | -61 | -11 | -17 | -28 | -56 | | | |

BAROMETRIC PRESSURE
MILLIBARS

CB-TRACT
TRAILER AB23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE PEAK | |
| 1 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 794 | 793 | 792 | 792 | 791 | 791 | 791 | 791 | 791 | 792 | 792 | 793 | 793 | 793 | 793 | 795 |
| 2 | 793 | 793 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | |
| 3 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 795 | 795 | 795 | 796 | 796 | |
| 4 | 796 | 796 | 796 | 796 | 796 | 797 | 798 | 798 | 798 | 798 | 798 | 798 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 798 | |
| 5 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 798 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 798 | 798 | 797 | 798 | |
| 6 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 798 | 797 | 796 | 795 | 795 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 799 | |
| 7 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 795 | 795 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 799 | |
| 8 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 798 | 797 | 796 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 798 | 797 | 797 | 797 | 798 | |
| 9 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 797 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 797 | |
| 10 | 796 | 796 | 795 | 795 | 795 | 796 | 797 | 797 | 797 | 796 | 796 | 797 | 797 | 794 | 794 | 794 | 793 | 793 | 795 | 795 | 796 | 796 | 796 | 796 | 797 | |
| 11 | 796 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 795 | 795 | 796 | 796 | 797 | 797 | 798 | 798 | 799 | 797 | 799 | |
| 12 | 800 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 798 | 798 | 798 | 798 | 797 | 796 | 795 | 796 | 796 | 796 | 795 | 795 | 795 | 795 | 797 | |
| 13 | 795 | 794 | 794 | 793 | 793 | 793 | 792 | 792 | 791 | 790 | 789 | 789 | 788 | 788 | 788 | 788 | 787 | 787 | 786 | 786 | 785 | 787 | 786 | 787 | 789 | |
| 14 | 787 | 786 | 786 | 786 | 786 | 786 | 787 | 787 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 789 | 790 | 791 | 791 | 791 | 791 | 792 | 792 | |
| 15 | 792 | 792 | 792 | 792 | 793 | 793 | 793 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 795 | 795 | 796 | 796 | 796 | 796 | 796 | |
| 16 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 795 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | |
| 17 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 795 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 795 | |
| 18 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 794 | |
| 19 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 796 | |
| 20 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 794 | 795 | 795 | 795 | 795 | 796 | 796 | 797 | 797 | 796 | |
| 21 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 798 | |
| 22 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 798 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | |
| 23 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 795 | 795 | 794 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | 795 | |
| 24 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 794 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | 795 | |
| 25 | 805 | 805 | 804 | 804 | 805 | 805 | 806 | 806 | 806 | 806 | 806 | 805 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | 805 | 806 | |
| 26 | 804 | 804 | 804 | 804 | 804 | 803 | 803 | 803 | 803 | 803 | 803 | 802 | 802 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 802 | |
| 27 | 800 | 800 | 800 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 798 | 798 | 800 | |
| 28 | 798 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 798 | 798 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 799 | 800 | |
| 29 | 800 | 800 | 800 | 800 | 800 | 801 | 801 | 801 | 801 | 801 | 801 | 801 | 800 | 799 | 799 | 799 | 799 | 799 | 800 | 800 | 800 | 800 | 800 | 801 | 801 | |
| 30 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 797 | 797 | 797 | 797 | 797 | 797 | 798 | 797 | 797 | 797 | 797 | 797 | 798 | |
| 31 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 794 | 794 | 795 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 797 | |
| AV | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 795 | 795 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 796 | |
| PK | 805 | 804 | 804 | 805 | 805 | 805 | 806 | 806 | 806 | 806 | 806 | 805 | 805 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | 805 | 806 | |
| MN | 787 | 786 | 786 | 786 | 786 | 786 | 787 | 787 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 787 | 787 | 786 | 786 | 786 | 785 | 785 | 787 | 786 | 787 | |
| MONTHLY MINIMUM = 785 | | | | | | | | | | | | | | | | | | | | | | | | | | |

MONTHLY MINIMUM = 785

PRECIPITATION
CM*100

CB-TRACT
TRAILER AB23
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | TL PEAK |
|-----|----------------------------|---|-----|---|----|----|----|----|----|----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|---------|
| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 2 | | | | | | | | | 38 | 23 | | | | | | | | | | | | | | | 61 38 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | 97 38 |
| 4 | | | | | | | | | | | | 38 | 25 | 20 | 10 | 3 | | | | | | | | | 36 10 |
| 5 | | | | | | | 10 | 10 | 5 | | | | | | | | | | | | | | | | () |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 11 | | | | | | | 8 | 33 | 28 | 10 | | | | | | | | | | | | | | | 79 33 |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 22 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 23 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 26 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 27 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 31 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| TL | 3 | 3 | () | 8 | 33 | 28 | 20 | 10 | 48 | 28 | () | 38 | 25 | 20 | 23 | 15 | 13 | () | () | () | () | () | () | () | 315 |
| PK | 3 | 3 | 3 | 8 | 33 | 28 | 10 | 10 | 38 | 23 | | 38 | 25 | 20 | 13 | 13 | 13 | | | | | | | | 38 |

PRECIPITATION
CM*100

CB TRACT
MRI A028
OCT 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | TOTAL |
|-----|----------------------------|----|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | 5 | | | | | | | | | | | | | | | | 61 |
| 3 | | | | | | | | | 38 | | | | | | | | | | | | | | | | 140 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | 28 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TL | 5 | 10 | 3 | | | | | | 74 | 10 | 25 | 63 | 15 | | | | 3 | 15 | 3 | 20 | 13 | 107 | 3 | | 368 |

STABILITY CLASS USING DT/02
DT 60-10M
WS 10M

CB-TRACT
TRAILER AA23
OCT 1983
OCCIDENTAL OIL SHALE, INC.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | E | E | E | E | E | E | E | E | C | D | D | C | D | D | D | D | D | D | D | E | E | F | D | F | D |
| 2 | D | E | E | E | E | E | E | E | D | D | D | A | A | A | A | A | A | D | E | E | F | F | F | F | E |
| 3 | E | E | E | E | E | E | E | E | F | D | D | A | A | A | A | A | A | D | E | E | F | F | F | F | D |
| 4 | E | E | E | E | E | E | E | E | F | D | D | A | A | A | A | A | A | D | E | E | F | F | F | F | D |
| 5 | E | E | E | E | E | E | E | E | F | D | D | A | A | A | A | A | A | D | E | E | F | F | F | F | D |
| 6 | F | F | F | F | F | F | F | F | E | C | A | A | A | A | A | A | A | D | E | E | F | F | F | F | D |
| 7 | F | F | F | F | F | F | F | F | E | C | A | A | A | A | A | A | A | D | E | E | F | F | F | F | D |
| 8 | (| F | F | F | F | F | F | F | E | C | A | A | A | A | A | A | A | D | E | E | F | F | F | F | D |
| 9 | (| F | F | F | F | F | F | F | E | C | A | A | A | A | A | A | A | D | E | E | F | F | F | F | D |
| 10 | D | D | D | D | D | D | D | D | A | B | B | C | D | A | B | B | B | D | E | E | F | F | F | F | D |
| 11 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 12 | E | E | E | E | E | E | E | E | F | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 13 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 14 | E | E | E | E | E | E | E | E | F | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 15 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 16 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 17 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 18 | E | E | E | E | E | E | E | E | F | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 19 | E | E | E | E | E | E | E | E | F | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 20 | (| E | E | E | E | E | E | E | F | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 21 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 22 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 23 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 24 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 25 | E | E | E | E | E | E | E | E | F | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 26 | E | E | E | E | E | E | E | E | F | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 27 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 28 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 29 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 30 | (| F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| 31 | F | F | F | F | F | F | F | F | E | D | A | B | B | B | B | B | B | D | E | E | F | F | F | F | D |
| AVE | F | F | F | F | F | F | F | F | E | C | B | B | B | B | B | B | C | D | E | E | F | F | F | F | D |

TOTAL OCCURRENCES: A = 82 B = 90 C = 28 D = 85 E = 189 F = 250 HOURS MISSING = 20

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

NITRIC OXIDE (NO)

PERIOD(10/01/83 TO 10/31/83)

TRAILER AB23

WIND DIRECTION

| CONCENTRATION
MAX
UG/M ³ | N | | NNE | | NE | | ENE | | E | | ESE | | SE | | SSE | | S | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL |
|---|----|----|-----|----|----|----|-----|----|----|----|-----|-----|----|----|-----|----|----|----|-----|---|----|---|-----|---|---|---|-----|---|----|---|-----|---|------|---|-------|
| | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | | |
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 5. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| LT 5. : | 23 | 13 | 12 | 27 | 34 | 49 | 42 | 43 | 43 | 61 | 102 | 115 | 36 | 24 | 28 | 55 | 52 | 20 | 736 | | | | | | | | | | | | | | | | |
| TOTAL : | 23 | 13 | 12 | 27 | 34 | 49 | 42 | 43 | 43 | 61 | 102 | 115 | 36 | 24 | 28 | 55 | 52 | 20 | 736 | | | | | | | | | | | | | | | | |
| MEAN
CONC. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

OXIDES OF NITROGEN (NOX)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(10/01/83 TO 10/31/83)

TRAILER AR23

| CONCENTRATION
MAX
UG/M ³ | N | | NE | | E | | SE | | WIND DIRECTION | | | | W | | WNW | | NW | | NNW | | CALM | | TOTAL |
|---|----|----|----|----|----|----|----|----|----------------|-----|-----|----|----|----|-----|----|----|-----|-----|---|------|---|-------|
| | 7 | 5 | 3 | 5 | 3 | 5 | 7 | 5 | 3 | 5 | 7 | 5 | 3 | 5 | 5 | 7 | 9 | 13 | 3 | | | | |
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 10. : | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 4 | 0 | 0 | 0 | 0 | 20 |
| LT 5. : | 22 | 12 | 12 | 26 | 34 | 48 | 40 | 43 | 60 | 101 | 114 | 35 | 23 | 25 | 53 | 47 | 20 | 715 | | | | | |
| TOTAL : | 23 | 13 | 12 | 27 | 34 | 49 | 42 | 43 | 61 | 102 | 115 | 36 | 24 | 28 | 55 | 52 | 20 | 736 | | | | | |
| MEAN
CONC. | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

NITROGEN DIOXIDE (NO2)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(10/01/83 TO 10/31/83)

TRAILER

AH23

WIND DIRECTION

| CONCENTRATION | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
|-------------------|----|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|------|-------|
| MAX | 5 | 5 | 3 | 3 | 3 | 3 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 9 | 9 | 9 | 3 |
| UG/M ³ | | | | | | | | | | | | | | | | | | |
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 10. : | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 0 | 16 |
| LT 5. : | 22 | 12 | 12 | 27 | 34 | 49 | 41 | 43 | 60 | 101 | 114 | 35 | 23 | 27 | 53 | 47 | 20 | 720 |
| TOTAL : | 23 | 13 | 12 | 27 | 34 | 49 | 42 | 43 | 61 | 102 | 115 | 36 | 24 | 28 | 55 | 52 | 20 | 736 |
| MEAN CONC. | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

OZONE (03)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(10/01/83 TO 10/31/83)

TRAILER AR23

WIND DIRECTION

| CONCENTRATION
MAX
UG/M ³ | N | | NE | | E | | SE | | SSE | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL | |
|---|----|----|----|----|----|----|----|----|-----|-----|-----|----|----|----|-----|----|------|-----|-----|----|----|----|-----|----|------|----|-------|----|
| | 80 | 76 | 76 | 76 | 84 | 78 | 80 | 78 | 80 | 78 | 88 | 86 | 86 | 86 | 82 | 82 | 82 | 80 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 82 |
| GT 140. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130. - 140. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120. - 130. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110. - 120. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100. - 110. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90. - 100. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80. - 90. : | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 3 | 16 | 1 | 1 | 1 | 1 | 1 | 2 | 14 | 18 | 1 | 1 | 63 | | | | | | |
| 70. - 80. : | 4 | 4 | 3 | 2 | 7 | 13 | 5 | 9 | 12 | 18 | 18 | 7 | 5 | 5 | 14 | 14 | 7 | 147 | | | | | | | | | | |
| 60. - 70. : | 12 | 6 | 4 | 7 | 6 | 7 | 14 | 9 | 11 | 30 | 36 | 12 | 11 | 12 | 14 | 13 | 7 | 211 | | | | | | | | | | |
| 50. - 60. : | 4 | 3 | 1 | 10 | 8 | 16 | 8 | 12 | 15 | 21 | 27 | 5 | 1 | 3 | 6 | 4 | 2 | 146 | | | | | | | | | | |
| 40. - 50. : | 1 | 0 | 3 | 3 | 4 | 3 | 8 | 3 | 4 | 9 | 8 | 5 | 3 | 2 | 2 | 1 | 1 | 60 | | | | | | | | | | |
| 30. - 40. : | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | | | | | | | | | | |
| 20. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | |
| LT 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | |
| TOTAL : | 23 | 14 | 11 | 22 | 26 | 39 | 36 | 33 | 47 | 83 | 106 | 31 | 21 | 24 | 50 | 18 | 634 | | | | | | | | | | | |
| PERCENT | 4. | 2. | 2. | 3. | 4. | 6. | 6. | 5. | 7. | 13. | 17. | 5. | 3. | 4. | 8. | 3. | 100. | | | | | | | | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CARRON MONOXIDE (CO)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(10/01/83 TO 10/31/83)

THAILER AB23

| CONCENTRATION
MAX
UG/M**3 | N | | NE | | ENE | | E | | ESE | | SE | | SSE | | S | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL |
|---------------------------------|----|----|----|----|-----|----|----|----|-----|----|----|-----|-----|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|------|----|-------|
| | 57 | 45 | 45 | 45 | 45 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 45 | 45 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 45 | |
| GT 1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1200. -1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1100. -1200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1000. -1100. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 900. -1000. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 800. - 900. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 700. - 800. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 600. - 700. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500. - 600. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400. - 500. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300. - 400. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200. - 300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100. - 200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LT 100. : | 23 | 13 | 12 | 12 | 27 | 34 | 49 | 42 | 43 | 43 | 61 | 103 | 115 | 36 | 24 | 28 | 55 | 52 | 20 | 37 | | | | | | | | | | | | | |
| TOTAL : | 23 | 13 | 12 | 12 | 27 | 34 | 49 | 42 | 43 | 43 | 61 | 103 | 115 | 36 | 24 | 28 | 55 | 52 | 20 | 37 | | | | | | | | | | | | | |
| MEAN
CONC. | 38 | 41 | 43 | 38 | 41 | 40 | 40 | 40 | 42 | 42 | 40 | 40 | 40 | 40 | 39 | 41 | 39 | 36 | 36 | 37 | | | | | | | | | | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

SULFUR DIOXIDE (S02)

CATHEDRAL BLUFFS SHALE OIL

PERIOD(10/01/83 TO 10/31/83)

TRAILER AR23

| CONCENTRATION
MAX
UG/M ³ | N | | NE | | E | | ESE | | SE | | SSE | | WIND DIRECTION
SSW S SSW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL |
|---|----|----|----|----|----|----|-----|----|----|-----|-----|----|-----------------------------|----|-----|----|----|-----|-----|----|----|----|-----|---|------|----|-------|
| | 10 | 5 | 5 | 10 | 13 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 7 | 13 | 15 | 15 | 15 | 15 | 15 | 5 | 5 | | |
| GT 13. : | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | |
| 12. - 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 11. - 12. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 10. - 11. : | 1 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 5 | 3 | 0 | 0 | 0 | 1 | 7 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 27 | |
| 9. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 8. - 9. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 7. - 8. : | 4 | 0 | 0 | 3 | 1 | 6 | 3 | 5 | 12 | 11 | 3 | 0 | 2 | 2 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 61 | |
| 6. - 7. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 5. - 6. : | 8 | 6 | 8 | 5 | 7 | 11 | 10 | 14 | 17 | 39 | 37 | 17 | 15 | 10 | 16 | 9 | 1 | 230 | | | | | | | | | |
| 4. - 5. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3. - 4. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2. - 3. : | 4 | 4 | 3 | 11 | 18 | 25 | 24 | 18 | 14 | 31 | 52 | 16 | 6 | 12 | 22 | 20 | 15 | 295 | | | | | | | | | |
| 1. - 2. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| LT 1. : | 6 | 3 | 1 | 5 | 6 | 6 | 4 | 5 | 15 | 17 | 20 | 3 | 1 | 3 | 6 | 13 | 4 | 118 | | | | | | | | | |
| TOTAL : | 23 | 13 | 12 | 27 | 34 | 49 | 42 | 43 | 61 | 103 | 115 | 36 | 24 | 28 | 55 | 52 | 20 | 737 | | | | | | | | | |
| MEAN
CONC. | 4 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 2 | 3 | | | | | | | | | |

0 = NO OBSERVATIONS

(12/09/83-RPI)

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

HYDROGEN SULFIDE (H2S)

CATHEDRAL BLUFFS SHALE OIL

TRAILER AH23 PERIOD(10/01/83 TO 10/31/83)

| CONCENTRATION
MAX
UG/M ³ | N NNE | | NE ENE | | E ESE | | SE SSE | | WIND DIRECTION
SSW S SW | | | | W WNW | | NW NNW | | CALM | | TOTAL |
|---|-------|----|--------|----|-------|----|--------|----|----------------------------|-----|-----|----|-------|----|--------|----|------|-----|-------|
| | 6 | 4 | 6 | 4 | 8 | 8 | 9 | 9 | 8 | 8 | 9 | 8 | 6 | 8 | 8 | 8 | 6 | 4 | |
| GT 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. - 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. - 12. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 8. - 9. : | 0 | 0 | 0 | 2 | 2 | 0 | 4 | 2 | 1 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 0 | 0 | 21 |
| 7. - 8. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. - 7. : | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 9 |
| 5. - 6. : | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 2 | 4 | 2 | 0 | 12 |
| 4. - 5. : | 3 | 4 | 1 | 8 | 3 | 5 | 4 | 1 | 5 | 14 | 15 | 11 | 6 | 5 | 11 | 12 | 2 | 110 | |
| 3. - 4. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. - 3. : | 7 | 4 | 2 | 5 | 8 | 8 | 7 | 10 | 12 | 35 | 32 | 7 | 8 | 5 | 7 | 8 | 6 | 171 | |
| 1. - 2. : | 3 | 1 | 4 | 1 | 8 | 17 | 3 | 12 | 6 | 14 | 24 | 9 | 5 | 9 | 15 | 9 | 1 | 141 | |
| LT 1. : | 9 | 6 | 5 | 9 | 12 | 15 | 23 | 17 | 36 | 38 | 40 | 7 | 3 | 4 | 14 | 15 | 11 | 264 | |
| TOTAL : | 24 | 15 | 13 | 26 | 33 | 48 | 42 | 43 | 61 | 105 | 115 | 36 | 24 | 27 | 53 | 48 | 20 | 733 | |
| MEAN
CONC. | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 |

0 = NO OBSERVATIONS

CATHEDRAL BLUFFS SHALE OIL

10 METER LEVEL

STATION AA23 PERIOD(10/01/83 TO 10/31/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|-----|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| GT 11. : | 3 | 4 | 2 | 1 | 2 | 2 | 2 | 3 | 9 | 9 | 6 | 5 | 4 | 4 | 4 | 4 | 0 | |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 8. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 3. - 5. : | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 5 | 14 | 1 | 0 | 0 | 0 | 0 | 0 | 29 |
| 1. - 3. : | 11 | 8 | 3 | 11 | 15 | 36 | 24 | 25 | 13 | 35 | 48 | 16 | 13 | 18 | 36 | 35 | 0 | 347 |
| LT 1. : | 11 | 6 | 10 | 16 | 19 | 13 | 18 | 16 | 24 | 33 | 26 | 14 | 5 | 8 | 12 | 9 | 0 | 240 |
| TOTAL : | 24 | 15 | 13 | 27 | 34 | 49 | 42 | 43 | 61 | 105 | 115 | 36 | 24 | 28 | 56 | 52 | 0 | 724 |
| PERCENT | 3. | 2. | 2. | 4. | 5. | 7. | 6. | 6. | 8. | 15. | 16. | 5. | 3. | 4. | 8. | 7. | 0. | 100. |

0 = NO OBSERVATIONS

(12/09/83-RPI)

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

CATHEDRAL BLUFFS SHALE OIL

30 METER LEVEL

STATION AA23 PERIOD(10/01/83 TO 10/31/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|-----|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| GT 11. : | 4 | 5 | 3 | 2 | 3 | 4 | 4 | 6 | 12 | 12 | 9 | 7 | 5 | 5 | 5 | 5 | 0 | |
| 8. - 11. : | | | | | | | | | | | | | | | | | | |
| 5. - 8. : | | | | | | | | | | | | | | | | | | |
| 3. - 5. : | | | | | | | | | | | | | | | | | | |
| 1. - 3. : | | | | | | | | | | | | | | | | | | |
| LT 1. : | | | | | | | | | | | | | | | | | | |
| TOTAL : | 29 | 20 | 17 | 22 | 26 | 58 | 48 | 45 | 68 | 89 | 81 | 40 | 38 | 35 | 68 | 46 | 0 | 730 |
| PERCENT | 4. | 3. | 2. | 3. | 4. | 8. | 7. | 6. | 9. | 12. | 11. | 5. | 5. | 5. | 9. | 6. | 0. | 100. |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

60 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(10/01/83 TO 10/31/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|----|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|-------|
| | N | NNE | NE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | TOTAL |
| 4 | 5 | 4 | 2 | 1 | 4 | 4 | 6 | 14 | 12 | 9 | 8 | 7 | 5 | 5 | 6 | 0 |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 13 | 16 | 1 | 0 | 0 | 0 | 0 | 40 |
| 5. - 8. : | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 12 | 37 | 15 | 4 | 3 | 2 | 7 | 5 | 92 |
| 3. - 5. : | 8 | 5 | 2 | 0 | 7 | 8 | 17 | 14 | 15 | 18 | 8 | 12 | 10 | 23 | 25 | 172 |
| 1. - 3. : | 18 | 7 | 6 | 4 | 10 | 26 | 23 | 22 | 26 | 13 | 10 | 16 | 22 | 27 | 18 | 273 |
| LT 1. : | 12 | 6 | 6 | 8 | 15 | 16 | 17 | 13 | 6 | 10 | 11 | 9 | 4 | 8 | 9 | 157 |
| TOTAL : | 38 | 19 | 14 | 12 | 25 | 49 | 50 | 59 | 69 | 102 | 73 | 32 | 35 | 42 | 66 | 740 |
| PERCENT | 5. | 3. | 2. | 2. | 3. | 7. | 7. | 8. | 9. | 14. | 10. | 4. | 5. | 6. | 9. | 100. |

0 = NO OBSERVATIONS

FIVE MAXIMUM SLIDING AVERAGE
UG/M₄+3

C-B TRACT
SITE AR23
OCT 1983
CATHEDRAL

BLUFFS SHALE OIL CO.

| COMPONENT | AVG. TIME | RANK | DAY | HOUR (REG) | VALUE |
|-----------|-----------|------|-----|------------|-------|
| S02 | 3 HR | 1 | 12 | 9 | 14.0 |
| | | 2 | 12 | 12 | 12.2 |
| | | 3 | 11 | 9 | 11.3 |
| | | 4 | 13 | 8 | 11.3 |
| | | 5 | 11 | 12 | 10.5 |
| S02 | 24 HR | 1 | 11 | 19 | 9.9 |
| | | 2 | 12 | 20 | 9.7 |
| | | 3 | 10 | 18 | 9.3 |
| | | 4 | 11 | 1 | 9.2 |
| | | 5 | 18 | 19 | 9.8 |
| C0 | 1 HR | 1 | 1 | 8 | 60.0 |
| | | 2 | 1 | 10 | 60.0 |
| | | 3 | 1 | 11 | 60.0 |
| | | 4 | 1 | 12 | 60.0 |
| | | 5 | 1 | 22 | 60.0 |
| C0 | 8 HR | 1 | 31 | 15 | 60.0 |
| | | 2 | 1 | 17 | 50.0 |
| | | 3 | 1 | 1 | 50.0 |
| | | 4 | 1 | 1 | 50.0 |
| | | 5 | 2 | 1 | 50.0 |
| 03 | 1 HR | 1 | 28 | 15 | 88.3 |
| | | 2 | 29 | 12 | 88.3 |
| | | 3 | 29 | 13 | 88.3 |
| | | 4 | 29 | 14 | 88.3 |
| | | 5 | 30 | 4 | 88.3 |
| PART | 24 HR | 1 | 29 | 1 | 18.3 |
| | | 2 | 13 | 1 | 12.3 |
| | | 3 | 1 | 1 | 11.5 |
| | | 4 | 17 | 1 | 9.8 |
| | | 5 | 21 | 1 | 7.0 |

DATA ACQUISITION INSTRUMENT EFFICIENCY
CATHEDRAL BLUFFS SHALE OIL COMPANY
A.Q. TRAILER A823

OCTOBER 1983

GASEOUS
PARAMETERS

NOX: 100 %

NO: 100

NO2: 100

O3: 86

CO: 100

SO2: 100

H2S: 100

METEOROLOGICAL
PARAMETERS

WIND SPEED

10 M: 100 %

30 M: 100

60 M: 100

WIND DIRECTION

10 M: 100

30 M: 100

60 M: 100

SIGMA HORIZONTAL

WIND DIRECTION

10 M: 100

30 M: 100

60 M: 100

TEMPERATURE

10 M: 100

30 M: 100

60 M: 100

DELTA TEMPERATURE: 100

RELATIVE HUMIDITY: 100

PARTICULATES: 100 %

SOLAR RADIATION: 100

BAROMETRIC PRESSURE: 100

PRECIPITATION: 100

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NITRIC OXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 |
| 2 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 1 |
| 4 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 |
| 6 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |
| 7 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 8 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 9 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 10 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 |
| 11 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 12 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 2 |
| 13 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 14 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 15 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 16 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 |
| 17 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 18 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2 |
| 19 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 20 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 21 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 1 | 2 |
| 22 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 23 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 24 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| 25 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 26 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 27 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 28 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 29 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 30 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 2 |
| AV | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 1 | 2 |
| PK | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

OXIDES OF NITROGEN
(UG/H3)

CB-TRACT
TRAILER AB23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|---|---|---|---|---|---|---|---|--------|----|----|----|----|--------|--------|----|----|----|----|----|----|----|----|----|-----|------|---|
| 1 | 2 | 4 | 4 | 4 | 2 | 2 | 4 | 4 | 8 (CA) | 4 | 4 | 4 | 6 | 2 (CA) | 2 (CA) | 2 | 2 | 2 | 2 | 4 | 6 | 8 | 4 | 4 | 3 | 4 | |
| 2 | 6 | 4 | 6 | 6 | 4 | 4 | 2 | 4 | 6 | 4 | 4 | 6 | 6 | 4 | 4 | 4 | 2 | 2 | 4 | 0 | 4 | 2 | 2 | 2 | 6 | 6 | |
| 3 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 2 | 2 | 4 | 4 | 4 | 4 | |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 6 | 2 | 4 | 4 | |
| 5 | 4 | 4 | 6 | 6 | 4 | 2 | 6 | 6 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 4 | 4 | |
| 6 | 8 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 9 | 6 | 4 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | |
| 7 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 8 | 2 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 6 | 4 | 2 | 4 | 4 | 2 | 2 | 2 | 3 | 6 | |
| 9 | 6 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 8 | 6 | 6 | 6 | 6 | 6 | 8 | 6 | 6 | 4 | 4 | 4 | 4 | |
| 10 | 4 | 4 | 4 | 2 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 11 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 6 | 6 | 6 | 4 | 4 | 4 | |
| 12 | 8 | 6 | 6 | 6 | 6 | 6 | 4 | 6 | 6 | 6 | 4 | 6 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 13 | 6 | 6 | 6 | 6 | 2 | 6 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 4 | 4 | 2 | 2 | 2 | 2 | 3 | 6 | |
| 14 | 4 | 4 | 6 | 2 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 15 | 4 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 2 | 4 | 4 | |
| 16 | 4 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 17 | 4 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 18 | 6 | 4 | 4 | 4 | 4 | 6 | 2 | 2 | 4 | 6 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 6 | 4 | 4 | 4 | 2 | 2 | 4 | 4 | 4 | |
| 19 | 4 | 4 | 2 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 4 | 6 | 6 | 4 | 4 | 8 | 6 | 4 | 4 | 4 | |
| 20 | 4 | 6 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 21 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 8 | 2 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 22 | 6 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 8 | 6 | 6 | 6 | 6 | 4 | 6 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 23 | 6 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 6 | 4 | 4 | 6 | 6 | 4 | 4 | 4 | |
| 24 | 8 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 6 | 6 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 25 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 6 | 4 | 4 | 4 | |
| 26 | 6 | 6 | 8 | 8 | 6 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 6 | 6 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | |
| 27 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 6 | 6 | 6 | 8 | 6 | 6 | 4 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 28 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 29 | 6 | 6 | 4 | 4 | 6 | 4 | 4 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | |
| 30 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 6 | 4 | 4 | 4 | 4 | |
| AV | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| PK | 8 | 6 | 8 | 6 | 6 | 6 | 6 | 8 | 8 | 9 | 9 | 8 | 6 | 8 | 9 | 6 | 6 | 6 | 6 | 6 | 9 | 8 | 6 | 6 | 6 | 4 | 9 |

NITROGEN DIOXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 2 | 0 | 4 | 4 | 2 | 2 | 2 | 4 | 2 | 4 | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 4 | 6 | 2 | 4 | 4 | 0 | 2 | 4 |
| 2 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 6 | 6 | 6 | 8 | 6 | 4 | 4 | 2 | 4 | 6 | 2 | 2 | 0 | 4 | 8 | 4 | 4 | 4 | 2 |
| 3 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 0 | 2 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 2 | 0 | 2 | 0 | 0 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 4 | 4 | 6 | 6 | 2 | 4 | 0 | 2 | 4 | 4 | 2 | 2 | 2 | 2 | 0 | 2 | 6 |
| 5 | 4 | 2 | 4 | 4 | 4 | 4 | 2 | 2 | 6 | 4 | 2 | 2 | 2 | 4 | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 2 | 4 | 4 | 4 | 4 |
| 6 | 8 | 6 | 6 | 6 | 4 | 4 | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 2 | 4 | 4 | 4 | 4 | 2 | 2 | 4 | 0 | 2 | 0 | 4 | 8 |
| 7 | 0 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 4 | 2 | 4 | 4 | 4 | 4 | 3 | 4 |
| 8 | 6 | 2 | 2 | 4 | 2 | 4 | 4 | 4 | 6 | 2 | 4 | 6 | 6 | 4 | 4 | 2 | 6 | 2 | 2 | 0 | 2 | 2 | 4 | 2 | 0 | 3 |
| 9 | 6 | 2 | 2 | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 0 | 3 | 8 |
| 10 | 4 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 0 | 2 | 4 | 0 | 4 | 2 | 2 | 4 | 0 | 2 | 6 |
| 11 | 4 | 4 | 4 | 4 | 4 | 6 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 4 | 4 | 2 | 6 | 2 | 6 | 4 | 2 | 2 | 0 | 3 | 6 |
| 12 | 6 | 4 | 4 | 4 | 4 | 6 | 2 | 4 | 2 | 2 | 4 | 2 | 4 | 2 | 4 | 4 | 2 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 3 | 6 |
| 13 | 2 | 2 | 2 | 4 | 2 | 2 | 2 | 2 | 6 | 2 | 2 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 | 0 | 4 | 2 | 2 | 3 | 6 |
| 14 | 4 | 4 | 4 | 2 | 2 | 2 | 0 | 2 | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 0 | 6 | 6 | 6 | 6 | 4 | 0 | 4 | 6 |
| 15 | 4 | 4 | 0 | 2 | 0 | 2 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 2 | 2 | 6 | 4 | 4 | 6 | 8 | 4 | 6 | 4 | 2 | 3 | 6 |
| 16 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 8 |
| 17 | 4 | 4 | 4 | 6 | 4 | 4 | 2 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 6 | 4 | 4 | 2 | 3 | 6 |
| 18 | 4 | 2 | 2 | 4 | 4 | 2 | 2 | 4 | 2 | 4 | 4 | 2 | 2 | 4 | 4 | 4 | 6 | 4 | 6 | 4 | 4 | 6 | 4 | 4 | 4 | 6 |
| 19 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 8 |
| 20 | 6 | 2 | 6 | 4 | 4 | 6 | 2 | 8 | 0 | 2 | 6 | 2 | 6 | 4 | 4 | 4 | 2 | 6 | 4 | 6 | 2 | 8 | 0 | 4 | 4 | 8 |
| 21 | 6 | 4 | 6 | 2 | 4 | 6 | 2 | 2 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 2 | 6 | 4 | 2 | 2 | 0 | 4 | 6 |
| 22 | 6 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 6 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 4 | 4 | 6 | 0 | 3 | 6 |
| 23 | 8 | 6 | 2 | 2 | 2 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 4 | 6 | 4 | 6 | 6 | 4 | 4 | 6 | 2 | 3 | 8 |
| 24 | 6 | 4 | 4 | 8 | 6 | 2 | 6 | 4 | 2 | 4 | 4 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 2 | 6 | 6 | 4 | 6 | 4 | 4 | 6 |
| 25 | 6 | 4 | 6 | 2 | 4 | 4 | 6 | 2 | 2 | 6 | 6 | 2 | 2 | 4 | 4 | 2 | 2 | 4 | 2 | 2 | 0 | 4 | 6 | 2 | 4 | 8 |
| 26 | 6 | 4 | 2 | 2 | 4 | 4 | 4 | 6 | 4 | 4 | 6 | 2 | 2 | 4 | 4 | 4 | 6 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 4 | 6 |
| 27 | 4 | 4 | 2 | 2 | 2 | 6 | 4 | 2 | 2 | 4 | 6 | 6 | 2 | 6 | 2 | 4 | 6 | 6 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 |
| 28 | 4 | 6 | 2 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 6 |
| 29 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 6 | 2 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 6 |
| 30 | 4 | 2 | 2 | 4 | 4 | 2 | 2 | 4 | 6 | 2 | 6 | 4 | 2 | 4 | 2 | 4 | 4 | 4 | 0 | 6 | 4 | 4 | 4 | 2 | 4 | 6 |
| AV | 4 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 2 | 3 | 8 |
| PK | 8 | 6 | 6 | 8 | 6 | 6 | 6 | 8 | 6 | 8 | 8 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 6 | 6 | 8 | |

OZONE
(UG/M3)

CB-TRACT
TRAILER AB23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|----|----|----|----|----|----|----|----|------|------|------|------|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 1 | 57 | 63 | 57 | 53 | 67 | 65 | 59 | 49 | 51 | 67 | 71 | 71 | 71 | 69 | 69 | 69 | 67 | 63 | 59 | 61 | 59 | 61 | 55 | 55 | 62 | 71 |
| 2 | 55 | 59 | 59 | 57 | 55 | 61 | 57 | 53 | 49 | 45 | 59 | 63 | 67 | 73 | 65 | 61 | 61 | 61 | 53 | 51 | 53 | 59 | 63 | 61 | 58 | 73 |
| 3 | 47 | 63 | 59 | 61 | 59 | 51 | 51 | 45 | 53 | 53 | 69 | 71 | (CA) | 73 | 69 | 71 | 63 | 63 | 57 | 57 | 57 | 53 | 53 | 53 | 59 | 73 |
| 4 | 49 | 53 | 55 | 53 | 61 | 63 | 63 | 59 | 55 | 47 | 57 | 65 | 69 | 69 | 69 | 71 | 71 | 71 | 69 | 71 | 73 | 71 | 71 | 67 | 63 | 73 |
| 5 | 65 | 69 | 69 | 67 | 61 | 61 | 61 | 55 | 53 | 63 | 69 | 69 | 67 | 69 | 74 | 76 | 76 | 73 | 67 | 65 | 59 | 61 | 55 | 61 | 65 | 76 |
| 6 | 53 | 57 | 57 | 57 | 55 | 55 | 53 | 59 | 51 | 63 | 69 | 71 | 71 | 71 | 73 | 73 | 69 | 69 | 67 | 67 | 65 | 69 | 69 | 69 | 64 | 73 |
| 7 | 65 | 63 | 67 | 63 | 65 | 63 | 67 | 65 | 65 | 67 | 67 | 63 | 65 | 65 | 65 | 65 | 65 | 65 | 63 | 63 | 63 | 61 | 57 | 49 | 63 | 69 |
| 8 | 45 | 43 | 45 | 55 | 53 | 53 | 51 | 51 | 61 | 53 | 61 | 63 | 69 | 67 | 63 | 67 | 65 | 63 | 63 | 63 | 63 | 63 | 59 | 59 | 58 | 69 |
| 9 | 55 | 57 | 55 | 55 | 57 | 51 | 55 | 57 | 53 | 61 | 61 | 63 | 69 | 69 | 63 | 65 | 63 | 55 | 53 | 55 | 59 | 61 | 61 | 57 | 59 | 69 |
| 10 | 51 | 61 | 63 | 61 | 63 | 59 | 63 | 63 | 63 | 63 | 63 | 65 | 67 | 74 | 69 | 67 | 67 | 61 | 63 | 59 | 59 | 61 | 63 | 61 | 63 | 74 |
| 11 | 61 | 65 | 69 | 69 | 69 | 69 | 69 | 67 | 65 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 65 | 63 | 61 | 59 | 59 | 59 | 53 | 65 | 69 |
| 12 | 49 | 47 | 49 | 49 | 51 | 53 | 59 | 47 | 41 | 41 | 43 | 51 | 57 | 61 | 65 | 63 | 61 | 57 | 53 | 53 | 53 | 53 | 51 | 51 | 52 | 65 |
| 13 | 47 | 53 | 59 | 59 | 63 | 59 | 69 | 67 | 69 | 74 | 78 | 80 | 76 | 73 | 74 | 76 | 73 | 71 | 65 | 63 | 63 | 59 | 59 | 51 | 61 | 80 |
| 14 | 55 | 63 | 74 | 76 | 76 | 71 | 67 | 67 | 65 | (CA) | 71 | 69 | 69 | 71 | 74 | 76 | 73 | 65 | 61 | 57 | 57 | 59 | 59 | 63 | 67 | 76 |
| 15 | 65 | 63 | 61 | 61 | 65 | 65 | 63 | 59 | 51 | 67 | 74 | 76 | 80 | 80 | 78 | 76 | 71 | 71 | 71 | 73 | 74 | 73 | 71 | 71 | 69 | 80 |
| 16 | 69 | 74 | 71 | 69 | 67 | 71 | 71 | 69 | 69 | 73 | 78 | 80 | 80 | 80 | 80 | 84 | 82 | 80 | 73 | 69 | 69 | 71 | 69 | 69 | 74 | 84 |
| 17 | 65 | 69 | 69 | 69 | 69 | 67 | 69 | 69 | 73 | 76 | 78 | 78 | 80 | 80 | 80 | 80 | 80 | 76 | 71 | 71 | 65 | 57 | 47 | 49 | 49 | 80 |
| 18 | 51 | 61 | 57 | 55 | 47 | 57 | 63 | 59 | 61 | 61 | 63 | 63 | 63 | 63 | 63 | 65 | 63 | 67 | 65 | 67 | 69 | 67 | 71 | 69 | 67 | 61 |
| 19 | 59 | 61 | 59 | 57 | 53 | 47 | 39 | 43 | 45 | 59 | 59 | 57 | 59 | 61 | 59 | 53 | 49 | 49 | 49 | 53 | 57 | 55 | 61 | 63 | 58 | 65 |
| 20 | 63 | 65 | 65 | 63 | 63 | 63 | 63 | 63 | 61 | 59 | 59 | 57 | 59 | 61 | 59 | 53 | 49 | 49 | 49 | 53 | 57 | 55 | 61 | 63 | 58 | 65 |
| 21 | 59 | 63 | 59 | 53 | 49 | 49 | 49 | 59 | 67 | 78 | 82 | 80 | 84 | 86 | 88 | 88 | 86 | 80 | 80 | 76 | 73 | 73 | 73 | 69 | 71 | 88 |
| 22 | 63 | 63 | 61 | 57 | 49 | 49 | 45 | 41 | 41 | 41 | 41 | 43 | 49 | 51 | 53 | 53 | 51 | 49 | 47 | 47 | 45 | 47 | 49 | 49 | 63 | 69 |
| 23 | 47 | 47 | 55 | 59 | 61 | 59 | 61 | 57 | 53 | 59 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 67 | 65 | 67 | 63 | 63 | 63 | 62 | 69 |
| 24 | 61 | 63 | 63 | 63 | 63 | 63 | 63 | 65 | 67 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 67 | 67 | 69 | 69 | 69 | 65 | 63 | 66 | 69 |
| 25 | 63 | 63 | 63 | 63 | 61 | 61 | 61 | 59 | 53 | 49 | 55 | 57 | 59 | 59 | 63 | 61 | 73 | 71 | 67 | 67 | 67 | 69 | 65 | 59 | 62 | 73 |
| 26 | 55 | 57 | 47 | 43 | 43 | 47 | 49 | 49 | 49 | 55 | 63 | 69 | 69 | 71 | 73 | 73 | 71 | 69 | 65 | 67 | 67 | 67 | 67 | 65 | 60 | 73 |
| 27 | 61 | 63 | 63 | 63 | 61 | 63 | 59 | 59 | 57 | 59 | 61 | 65 | 69 | 69 | 73 | 73 | 73 | 71 | 69 | 69 | 69 | 63 | 63 | 51 | 61 | 64 |
| 28 | 53 | 53 | 51 | 51 | 53 | 53 | 61 | 63 | 59 | 57 | 65 | 69 | 69 | 69 | 69 | 69 | 69 | 71 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 71 |
| 29 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 67 | 65 | 67 | 73 | 74 | 76 | 74 | 73 | 74 | 76 | 78 | 71 | 71 | 71 | 71 | 73 | 73 | 71 | 78 |
| 30 | 67 | 71 | 69 | 69 | 69 | 69 | 71 | 71 | 69 | 69 | (IM) | (IM) | (IM) | 69 | 76 | 76 | 74 | 74 | 74 | 73 | 74 | 74 | 76 | 74 | 72 | 76 |
| AV | 58 | 60 | 60 | 60 | 60 | 60 | 59 | 58 | 57 | 60 | 65 | 67 | 69 | 69 | 70 | 70 | 68 | 66 | 64 | 64 | 62 | 63 | 62 | 61 | 63 | 88 |
| PK | 69 | 74 | 74 | 76 | 76 | 71 | 71 | 71 | 73 | 78 | 82 | 80 | 84 | 86 | 88 | 88 | 86 | 80 | 80 | 80 | 76 | 74 | 76 | 74 | 74 | 88 |

CARBON MONOXIDE
(UG/M3)CB-TRACT
TRAILER AB23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|----|----|----|----|----|----|----|----|----|----|------|----|------|----|------|----|----|----|----|----|----|----|----|----|-----|------|----|
| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
| 1 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 57 | 60 | |
| 2 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 50 | 60 | 50 | 50 | (CA) | 60 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 51 | 60 | |
| 3 | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 60 | 60 | 60 | 50 | 50 | 50 | 60 | 50 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 52 | 60 | |
| 4 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 51 | 60 | |
| 5 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 60 | 60 | 60 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 48 | 60 | |
| 6 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 50 | 50 | 60 | 60 | 50 | 60 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 50 | 50 | 54 | 60 | |
| 7 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 50 | 60 | 30 | 30 | 30 | 30 | 30 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 46 | 60 | |
| 8 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 57 | 60 | |
| 9 | 60 | 60 | 60 | 60 | 60 | 50 | 50 | 50 | 50 | 50 | 60 | 60 | 50 | 50 | 50 | 50 | 60 | 60 | 60 | 60 | 60 | 50 | 50 | 50 | 53 | 60 | |
| 10 | 60 | 60 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 50 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 50 | 50 | 50 | 50 | 51 | 60 | |
| 11 | 50 | 50 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | (CA) | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 41 | 60 | |
| 12 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 50 | 50 | 50 | 30 | 30 | 50 | 30 | 30 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 38 | 50 | |
| 13 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 20 | 20 | 20 | 44 | 50 | |
| 14 | 50 | 50 | 20 | 20 | 20 | 20 | 10 | 10 | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 20 | 20 | 20 | 44 | 50 | |
| 15 | 20 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 28 | 50 | |
| 16 | 20 | 20 | 10 | 10 | 10 | 10 | 10 | 30 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 0 | 0 | 10 | 10 | 10 | 10 | 15 | 30 | |
| 17 | 10 | 20 | 20 | 10 | 20 | 10 | 20 | 20 | 20 | 10 | 10 | 10 | 20 | 20 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 10 | 10 | 10 | 13 | 20 | |
| 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 0 | 16 | 20 | |
| 19 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 23 | 20 | | |
| 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 23 | 20 | | |
| 21 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 23 | 20 | | |
| 22 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | (1M) | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 22 | 20 | |
| 23 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 10 | 20 | (1M) | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 22 | 20 | |
| 24 | 20 | 20 | 10 | 10 | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 16 | 20 | | |
| 25 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 30 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 19 | 20 | | |
| 26 | 30 | 30 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 30 | 20 | 20 | 20 | 20 | 30 | 30 | 30 | 20 | 24 | 30 | | |
| 27 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 22 | 20 | |
| 28 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 23 | 20 | |
| 29 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 23 | 20 | |
| 30 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 24 | 30 | |
| AV | 36 | 36 | 34 | 34 | 35 | 33 | 34 | 35 | 34 | 33 | 32 | 32 | 30 | 32 | 32 | 32 | 32 | 33 | 33 | 34 | 31 | 33 | 33 | 33 | 32 | 33 | 60 |
| PK | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | |

SULFUR DIOXIDE
(UG/M3)

CB-TRACT
TRAILER AB23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | AVE PEAK | | | |
|-----|----------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|---|--|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | | |
| 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | | |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | | |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | | |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | | |
| 5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | | |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | | |
| 17 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | | |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 23 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | | |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| AV | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| PK | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | | |

HYDROGEN SULFIDE
(UG/M3)

CB-TRACT
TRAILER AB23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | |
|-----|----------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | 1 | 1 | 1 | 3 | 3 | 3 | 1 | 1 | 3 | 1 | 1 | 1 | 4 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 16 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| AVE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

PARTICULATE DATA
UG/M3

C-B TRACT
NOV 1983
OCCIDENTAL OIL SHALE, INC.

| DAY | AB20 | AB23 | STATION
AB26 | AD42 | AD56 |
|------|------|------|-----------------|------|------|
| 2 | () | 18.5 | () | () | () |
| 6 | () | 9.3 | () | () | () |
| 10 | () | 1.7 | () | () | () |
| 14 | () | 3 | () | () | () |
| 18 | () | 1 | () | () | () |
| 22 | () | 0.8 | () | () | () |
| 26 | () | 2.2 | () | () | () |
| 30 | () | 3.4 | () | () | () |
| AVE | () | 4.99 | () | () | () |
| GM | () | 2.92 | () | () | () |
| PEAK | () | 18.5 | () | () | () |

WIND SPEED # 10M
METERS/SEC

CB-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | |
|-----|----------------------------|------|------|---|----|----|---|------|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1 | 0 | 1 | (CM) | 1 | 3 | 1 | 2 | 2 | 1 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 1 | 2 | 0 | 1 | 1 | 1 | 1 |
| 2 | 1 | (CM) | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 2 |
| 3 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | (CM) | 1 | 1 | 1 | 5 | 3 | 2 | 4 | 3 | 3 | 3 | 0 | 2 | 3 | 1 | 0 |
| 4 | 2 | 1 | 2 | 2 | 0 | 0 | 1 | 2 | 1 | 4 | 6 | 2 | 3 | 4 | 4 | 5 | 4 | 2 | 1 | 3 | 2 | 4 | 4 | 2 |
| 5 | 6 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 2 | 3 | 3 | 4 | 7 | 4 | 4 | 4 | 3 | 1 | 3 | 2 | 2 |
| 6 | 7 | 1 | 1 | 1 | 1 | 1 | 3 | 4 | 6 | 8 | 5 | 7 | 9 | 8 | 6 | 7 | 7 | 5 | 5 | 3 | 4 | 5 | 2 | 2 |
| 7 | 8 | 2 | 1 | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 4 | 5 | 3 | 2 | 2 | 3 | 2 | 2 | 5 | 4 |
| 8 | 9 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 2 | 2 | 1 | 2 | 4 |
| 9 | 10 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 4 |
| 10 | 11 | 4 | 6 | 6 | 10 | 10 | 7 | 5 | 1 | 1 | 1 | 3 | 8 | 8 | 8 | 8 | 4 | 5 | 3 | 0 | 0 | 3 | 3 | 1 |
| 11 | 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| 12 | 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| 13 | 14 | 3 | 5 | 4 | 5 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 2 | 4 | 3 | 2 | 2 | 2 | 2 | 1 |
| 14 | 15 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 |
| 15 | 16 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 3 | 3 | 8 | 6 | 5 | 5 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 5 |
| 16 | 17 | 2 | 0 | 1 | 1 | 1 | 2 | 2 | 1 | 8 | 9 | 10 | 8 | 3 | 4 | 3 | 2 | 4 | 3 | 3 | 1 | 2 | 1 | 1 |
| 17 | 18 | 1 | 2 | 1 | 1 | 1 | 1 | (CM) | (CM) | (CM) | 2 | 4 | 4 | 3 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 18 | 19 | 4 | 4 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | 1 | 1 | 2 | 6 | 6 | 6 | 5 | 6 | 4 | 3 | 3 | 4 |
| 19 | 20 | 5 | 3 | 2 | 2 | 4 | 5 | 1 | 3 | 5 | 6 | 6 | 8 | 3 | 4 | 6 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 4 |
| 20 | 21 | 3 | 4 | 2 | 1 | 1 | 0 | 1 | 2 | 2 | 3 | 2 | 2 | 3 | 1 | 4 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 |
| 21 | 22 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 6 | 6 | 3 | 4 | 4 | 3 | 3 | 2 | 4 | 4 | 4 | 4 | 4 |
| 22 | 23 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 5 | 6 | 6 | 3 | 4 | 4 | 3 | 3 | 2 | 4 | 4 | 4 | 4 | 4 |
| 23 | 24 | 4 | 4 | 5 | 5 | 3 | 3 | 3 | 3 | 5 | 1 | 1 | 1 | 1 | 7 | 7 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 |
| 24 | 25 | 2 | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 6 | 4 | 4 | 5 | 3 | 2 | 2 | 4 | 4 | 4 | 4 | 4 |
| 25 | 26 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 5 | 5 | 5 | 4 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| 26 | 27 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 5 | 5 | 5 | 4 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 27 | 28 | 6 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 2 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 28 | 29 | 6 | 5 | 5 | 6 | 5 | 2 | 1 | 0 | 0 | 0 | 5 | 2 | 4 | 2 | 3 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 1 |
| 29 | 30 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 4 | 4 | 4 | 4 | 4 | 2 | 6 | 2 | 2 | 2 | 1 | 1 | 1 | 2 |
| AVE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| PK | 6 | 6 | 8 | 9 | 10 | 10 | 8 | 6 | 7 | 8 | 9 | 10 | 9 | 8 | 8 | 8 | 8 | 6 | 5 | 6 | 8 | 4 | 5 | 10 |

WIND SPEED @ 30M
METERS/SEC

CB-TRACT
TRAILER A423
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|---|---|------|------|------|----|------|------|------|----|----|----|----|----|----|----|----|----|----|----|------|----|----|----|-----|------|----|
| 1 | 0 | 1 | 1 | 3 | 5 | 2 | 4 | 3 | 2 | 4 | 4 | 6 | 5 | 5 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 0 | 1 | 3 | 6 |
| 2 | 1 | 1 | 0 | (CM) | (CM) | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 4 | 2 | 1 | 3 | 3 | 0 | 0 | (CM) | 1 | 1 | 0 | 0 | 1 | 4 |
| 3 | 4 | 1 | 0 | 1 | 3 | 1 | 1 | 2 | 1 | 5 | 8 | 5 | 4 | 4 | 6 | 7 | 6 | 4 | 6 | 5 | 3 | 3 | 3 | 2 | 1 | 3 | 8 |
| 4 | 1 | 0 | 1 | 3 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 6 | 6 | 5 | 6 | 5 | 5 | 3 | 1 | 2 | 1 | 4 | 5 | 3 | 6 | |
| 5 | 3 | 0 | 3 | 3 | 0 | 1 | 1 | 2 | 1 | 5 | 8 | 5 | 4 | 4 | 6 | 7 | 6 | 4 | 6 | 0 | 1 | 3 | 2 | 1 | 1 | 3 | 8 |
| 6 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 3 | 3 | 3 | 2 | 3 | 5 | 10 | 6 | 6 | 5 | 3 | 4 | 4 | 3 | 6 | |
| 7 | 4 | 3 | 3 | 1 | 1 | 0 | 7 | 8 | 4 | 10 | 8 | 13 | 10 | 4 | 8 | 7 | 4 | 8 | 7 | 5 | 4 | 6 | 7 | 7 | 7 | 13 | |
| 8 | 5 | 4 | 6 | 4 | 3 | 4 | 4 | 4 | 9 | 3 | 4 | 2 | 4 | 4 | 5 | 10 | 4 | 3 | 2 | 2 | 3 | 3 | 2 | 6 | 4 | 7 | |
| 9 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 |
| 10 | 3 | 4 | 2 | 4 | 4 | 2 | 2 | 3 | 3 | 4 | 6 | 5 | 4 | 4 | 6 | 7 | 6 | 4 | 6 | 5 | 3 | 1 | 2 | 1 | 4 | 7 | 3 |
| 11 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 12 | 11 | 5 | 6 | 6 | 6 | 6 | 5 | 2 | 7 | 3 | 7 |
| 12 | 3 | 9 | 12 | 14 | 14 | 2 | 1 | 2 | 1 | 1 | 3 | 0 | 12 | 11 | 5 | 5 | 2 | 2 | 5 | 1 | 2 | 1 | 5 | 8 | 6 | 15 | |
| 13 | 6 | 7 | 6 | 17 | 15 | 15 | 9 | 8 | 2 | 1 | 3 | 0 | 1 | 3 | 2 | 5 | 2 | 1 | 0 | 2 | 2 | 3 | 1 | 1 | 4 | 8 | 8 |
| 14 | 4 | 1 | 1 | 1 | 8 | 5 | 3 | 3 | 4 | 6 | 5 | 5 | 4 | 3 | 3 | 3 | 5 | 2 | 0 | 2 | 2 | 3 | 1 | 1 | 4 | 3 | 5 |
| 15 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 3 | 4 | 11 | 1 | 3 | 2 | 5 | 2 | 1 | 0 | 2 | 2 | 3 | 1 | 4 | 5 | 13 | |
| 16 | 3 | 1 | 2 | 3 | 1 | 1 | 2 | 3 | 3 | 3 | 4 | 11 | 10 | 7 | 9 | 10 | 7 | 6 | 8 | 7 | 6 | 4 | 1 | 2 | 4 | 11 | |
| 17 | 3 | 1 | 3 | 1 | 1 | 4 | (CM) | (CM) | 11 | 12 | 13 | 12 | 10 | 8 | 9 | 8 | 7 | 5 | 4 | 4 | 2 | 3 | 3 | 1 | 5 | 13 | |
| 18 | 2 | 4 | 4 | 1 | 2 | 1 | 2 | 0 | 1 | 0 | 4 | 4 | 6 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 5 | 5 | 4 | 5 | 4 | 6 | 9 |
| 19 | 6 | 6 | 4 | 3 | 3 | 2 | (CM) | (CM) | 5 | 4 | 4 | 1 | 1 | 1 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 4 | 6 |
| 20 | 7 | 4 | 4 | 3 | 3 | 2 | 1 | 6 | 5 | 6 | 8 | 11 | 10 | 9 | 9 | 8 | 8 | 5 | 5 | 3 | 4 | 7 | 6 | 4 | 4 | 9 | |
| 21 | 4 | 5 | 2 | 1 | 1 | 2 | 1 | 2 | 3 | 6 | 4 | 6 | 4 | 2 | 2 | 4 | 4 | 4 | 3 | 3 | 6 | 4 | 4 | 1 | 4 | 8 | |
| 22 | 3 | 2 | 3 | 2 | 3 | 4 | 4 | 5 | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 4 | 5 | 2 | 2 | 1 | 2 | 1 | 0 | 7 | 6 | 5 | 7 |
| 23 | 1 | 0 | 1 | 1 | 0 | 0 | 4 | 4 | (CM) | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 5 | 6 | 6 | 7 | 6 | 6 | 4 | 1 | 4 | 4 | 9 |
| 24 | 6 | 6 | 8 | 7 | 5 | 4 | 3 | 4 | 4 | 7 | 7 | 8 | 8 | 8 | 9 | 9 | 5 | 3 | 0 | 3 | 8 | 5 | 3 | 1 | 4 | 6 | 12 |
| 25 | 4 | 4 | 5 | 1 | 4 | 8 | 4 | 6 | 2 | 4 | 1 | 1 | 6 | 8 | 9 | 9 | 4 | 4 | 0 | 3 | 12 | 3 | 1 | 4 | 4 | 9 | |
| 26 | 3 | 4 | 9 | 8 | 9 | 12 | 12 | 9 | 8 | 8 | 7 | 8 | 9 | 9 | 7 | 7 | 4 | 5 | 4 | 1 | 2 | 1 | 0 | 2 | 3 | 7 | |
| 27 | 4 | 4 | 3 | 4 | 3 | 3 | 3 | 4 | 4 | 6 | 6 | 6 | 5 | 5 | 4 | 4 | 2 | 1 | 1 | 2 | 1 | 1 | 0 | 2 | 3 | 7 | |
| 28 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 5 | 5 | 5 | 5 | 6 | 7 | 7 | 6 | 7 | 5 | 3 | 7 | 9 | |
| 29 | 9 | 0 | 7 | 8 | 7 | 6 | 3 | 0 | 1 | 4 | 7 | 8 | 6 | 5 | 3 | 3 | 5 | 5 | 2 | 3 | 3 | 2 | 1 | 1 | 3 | 5 | 9 |
| 30 | 1 | 1 | (CM) | 8 | 2 | 2 | 1 | 2 | 2 | 4 | 5 | 4 | 5 | 6 | 5 | 3 | 8 | 4 | 3 | 3 | 2 | 3 | 2 | 1 | 3 | 8 | 8 |
| AV | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 5 | 4 | 3 | 4 | 3 | 3 | 3 | 3 | 4 | 15 | 15 |
| PK | 9 | 9 | 12 | 14 | 14 | 15 | 12 | 9 | 11 | 12 | 13 | 13 | 13 | 11 | 12 | 12 | 11 | 8 | 8 | 9 | 12 | 7 | 7 | 8 | 8 | 15 | 15 |

WIND SPEED @ 60M
METERS/SEC

CB-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | |
|-----|----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 2 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 3 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 4 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 5 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 6 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 7 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 8 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 9 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 10 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 11 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 12 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 13 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 14 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 15 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 16 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 17 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 18 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 19 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 20 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 21 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 22 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 23 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 24 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 25 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 26 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 27 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 28 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 29 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| 30 | 1 | 1 | 2 | 4 | 7 | 3 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 1 | 1 |
| AV | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| PK | 11 | 12 | 14 | 15 | 16 | 17 | 12 | 10 | 13 | 14 | 15 | 15 | 13 | 12 | 13 | 13 | 13 | 9 | 9 | 11 | 13 | 8 | 8 | 9 |

WIND DIRECTION # 10M
DEGREES

CB-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|------|-----|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|------|
| 1 | 214 | 188 | (CM) | 155 | 169 | 163 | 168 | 113 | 109 | 204 | 223 | 228 | 216 | 220 | 207 | 207 | 213 | 217 | 207 | 156 | 191 | 145 | 221 | 220 | 191 |
| 2 | 197 | 213 | 206 | 192 | 240 | 341 | 203 | 125 | 270 | 7 | 345 | 330 | 253 | 197 | 286 | 324 | 305 | 192 | 221 | 210 | 210 | 294 | 117 | 225 | 238 |
| 3 | (CM) | 215 | (CM) | 192 | 215 | 354 | 225 | 225 | 107 | 45 | 76 | 23 | 244 | 205 | 247 | 342 | 342 | (CM) | 229 | 294 | 230 | 148 | 22 | 251 | 281 |
| 4 | 207 | 225 | 207 | 193 | 164 | 175 | 236 | 210 | (CM) | 5 | 345 | 253 | 216 | 216 | 213 | 218 | 214 | 194 | 203 | 145 | 140 | 146 | 152 | 98 | 196 |
| 5 | 79 | 140 | 169 | 145 | 94 | 66 | 86 | 77 | 77 | 189 | 218 | 214 | 208 | 204 | 218 | 222 | 239 | 255 | 283 | 215 | 235 | 261 | 232 | 213 | 194 |
| 6 | 207 | 143 | (CM) | 202 | 215 | 228 | 267 | 139 | 94 | 39 | 334 | 299 | 308 | 245 | 231 | 218 | 212 | 196 | 203 | 203 | 163 | 194 | 193 | 182 | 209 |
| 7 | 168 | 131 | 184 | 49 | 99 | 60 | 186 | 190 | 195 | 194 | 194 | 191 | 201 | 209 | 205 | 207 | 214 | 207 | 203 | 189 | 178 | 198 | 208 | 213 | 187 |
| 8 | 223 | 228 | 309 | 341 | 294 | 299 | 312 | 342 | 331 | 337 | 316 | 304 | 311 | 318 | 336 | 336 | 350 | 312 | 266 | 292 | 354 | 13 | 13 | 13 | 320 |
| 9 | 14 | 14 | 14 | 13 | 13 | 12 | 14 | 12 | 74 | 95 | 68 | 344 | 270 | 261 | 210 | 175 | 172 | 154 | 120 | 114 | 109 | 112 | 112 | 127 | 71 |
| 10 | 115 | 140 | 97 | 172 | 166 | 118 | 188 | 165 | 158 | 109 | 60 | 31 | 310 | 205 | 222 | 211 | 190 | 146 | 143 | 133 | 123 | 147 | 139 | 123 | 147 |
| 11 | 117 | 112 | 169 | 161 | 134 | 109 | 176 | 191 | 96 | 194 | 202 | 194 | 213 | 218 | 215 | 214 | 210 | 204 | 207 | 209 | 173 | 197 | 240 | 225 | 189 |
| 12 | 246 | 9 | 172 | 184 | 223 | 278 | 189 | 59 | 5 | 240 | 303 | 52 | 23 | 232 | 215 | 214 | 210 | 204 | 202 | 198 | 113 | 188 | 112 | 243 | 216 |
| 13 | 191 | 205 | 216 | 217 | 213 | 220 | 279 | 255 | 300 | 274 | 313 | 317 | 6 | 341 | 351 | 297 | 268 | 204 | 202 | 198 | 113 | 188 | 112 | 243 | 216 |
| 14 | 269 | 280 | 255 | 257 | 261 | 266 | 266 | 270 | 287 | 289 | 286 | 303 | 320 | 338 | 310 | 298 | 307 | 323 | 201 | 207 | 210 | 228 | 145 | 201 | 270 |
| 15 | 193 | 143 | 133 | 180 | 148 | 142 | 133 | 133 | 109 | 174 | 215 | 211 | 207 | 226 | 222 | 191 | 168 | 136 | 138 | 126 | 127 | 150 | 134 | 138 | 160 |
| 16 | 167 | 136 | 127 | 117 | 209 | 137 | 124 | 107 | 157 | 204 | 220 | 242 | 219 | 230 | 222 | 219 | 215 | 223 | 217 | 215 | 211 | 210 | 84 | 134 | 185 |
| 17 | 168 | 115 | 126 | 167 | 94 | 147 | 86 | (CM) | 208 | 209 | 201 | 206 | 202 | 195 | 199 | 206 | 201 | 203 | 224 | 270 | 237 | 141 | 122 | 122 | 178 |
| 18 | 152 | 199 | 83 | 135 | 115 | 340 | (CM) | (CM) | 320 | 335 | 336 | 359 | 4 | 5 | 12 | 349 | 333 | 333 | 333 | 329 | 330 | 331 | 329 | 330 | 351 |
| 19 | 332 | 337 | 347 | (MR) | (MR) | (MR) | (MR) | (MR) | 235 | 277 | 340 | 329 | 349 | 86 | 236 | 224 | 222 | 200 | 216 | 207 | 194 | 186 | 201 | 204 | 247 |
| 20 | 207 | 197 | 188 | 176 | 198 | 191 | 198 | 201 | 201 | 202 | 209 | 212 | 212 | 198 | 203 | 199 | 191 | 199 | 197 | 194 | 200 | 215 | 209 | 208 | 200 |
| 21 | 196 | 201 | 45 | 71 | 59 | 210 | 326 | 180 | 184 | 198 | 177 | 172 | 144 | 194 | 229 | 204 | 192 | 168 | 157 | 158 | 123 | 171 | 188 | 186 | 178 |
| 22 | 155 | 191 | 214 | 240 | 287 | 299 | 299 | 314 | 316 | 300 | 308 | 315 | 311 | 292 | 330 | 329 | 340 | 292 | 256 | 207 | 185 | 232 | 243 | 214 | 275 |
| 23 | 217 | 120 | 199 | 208 | 199 | 281 | 202 | 130 | 130 | 99 | 210 | 230 | 297 | 224 | 231 | 230 | 225 | 197 | 204 | 207 | 203 | 205 | 207 | 206 | 205 |
| 24 | 196 | 190 | 189 | 183 | 190 | 170 | 163 | 186 | 189 | 196 | 196 | 191 | 196 | 198 | 171 | 161 | 133 | 161 | 139 | 191 | 184 | 179 | 83 | 130 | 175 |
| 25 | 84 | 152 | 133 | 112 | 151 | 184 | 130 | 154 | 132 | 118 | 128 | 184 | 186 | 186 | 175 | 183 | 234 | 258 | 55 | 144 | 111 | 164 | 254 | 310 | 157 |
| 26 | 287 | 284 | 321 | 320 | 327 | 336 | 329 | 332 | 331 | 327 | 339 | 342 | 340 | 340 | 332 | 335 | 341 | 343 | 338 | 338 | 337 | 319 | 310 | 304 | 317 |
| 27 | 296 | 303 | 308 | 308 | 309 | 306 | 298 | 302 | 324 | 335 | 339 | 347 | 347 | 11 | 0 | 10 | 325 | 358 | 325 | 311 | 267 | 261 | 259 | 210 | 317 |
| 28 | 209 | 210 | 211 | 207 | 207 | 209 | 207 | 209 | 210 | 107 | 111 | 187 | 219 | 210 | 214 | 210 | 208 | 205 | 211 | 215 | 219 | 202 | 193 | 203 | 217 |
| 29 | 213 | 209 | 210 | 217 | 210 | 203 | 202 | 87 | 326 | 261 | 244 | 261 | 261 | 249 | 298 | 320 | 320 | 290 | 228 | 215 | 216 | 272 | 39 | 63 | 247 |
| 30 | 170 | 171 | 270 | 33 | 45 | 45 | 71 | 157 | 167 | 201 | 201 | 200 | 207 | 206 | 203 | 191 | 198 | 197 | 181 | 91 | 102 | 186 | 73 | 117 | 164 |
| PV | 194 | 182 | 191 | 180 | 186 | 209 | 208 | 166 | 168 | 216 | 259 | 262 | 254 | 233 | 235 | 232 | 234 | 218 | 211 | 196 | 186 | 201 | 175 | 186 | 211 |

WIND DIRECTION * 30M
DEGREES

CB-TRACT
TRAILER #A423
NOV. 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|-----|------|------|------|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|------|
| 1 | 128 | 178 | 165 | 160 | 163 | 157 | 157 | 125 | 117 | 200 | 218 | 223 | 212 | 216 | 204 | 203 | 212 | 213 | 190 | 159 | 145 | 153 | 189 | 183 | 178 |
| 2 | 180 | 193 | 185 | 159 | 198 | 130 | 171 | 118 | 258 | 331 | 339 | 325 | 239 | 193 | 283 | 320 | 304 | 164 | 219 | 211 | 201 | 337 | 120 | 180 | 209 |
| 3 | 196 | 11 | 249 | (CM) | 274 | 15 | 343 | 114 | 47 | 75 | 27 | 230 | 240 | 206 | 250 | 341 | 16 | 68 | (CM) | 352 | 284 | 184 | 173 | 316 | 209 |
| 4 | 73 | (CM) | 166 | 214 | 147 | 149 | 191 | 114 | 132 | 19 | 313 | 246 | 213 | 214 | 209 | 213 | 210 | 130 | 188 | 174 | 155 | 141 | 137 | 107 | 171 |
| 5 | 91 | 114 | 157 | 148 | 156 | 124 | 119 | 69 | 75 | 186 | 213 | 209 | 207 | 202 | 213 | 217 | 235 | 251 | 301 | 105 | 270 | 266 | 252 | 233 | 188 |
| 6 | 216 | 63 | 79 | 148 | 174 | 216 | 292 | 183 | 95 | 38 | 329 | 295 | 302 | 237 | 227 | 213 | 208 | 195 | 199 | 187 | 191 | 190 | 182 | 202 | 202 |
| 7 | 178 | 179 | 188 | 62 | 140 | 155 | 183 | 187 | 190 | 189 | 188 | 186 | 197 | 204 | 202 | 203 | 210 | 203 | 201 | 187 | 174 | 194 | 202 | 210 | 187 |
| 8 | 218 | 223 | 302 | 335 | 294 | 297 | 308 | 337 | 328 | 333 | 312 | 301 | 306 | 315 | 328 | 330 | 346 | 311 | 296 | 308 | 346 | 355 | 355 | 317 | 317 |
| 9 | 355 | 354 | 355 | 355 | 354 | 352 | 355 | 355 | 90 | 101 | 75 | 349 | 265 | 238 | 203 | 170 | 163 | 149 | 122 | 121 | 124 | 125 | 119 | 137 | 77 |
| 10 | 139 | 148 | 101 | 153 | 158 | 117 | 169 | 149 | 151 | 120 | 60 | 39 | 301 | 201 | 216 | 208 | 188 | 143 | 143 | 131 | 122 | 157 | 154 | 140 | 147 |
| 11 | 143 | 126 | 168 | 159 | 136 | 112 | 173 | 188 | 107 | 191 | 202 | 206 | 211 | 214 | 213 | 221 | 229 | 241 | 278 | 340 | 173 | 191 | 259 | 246 | 193 |
| 12 | 256 | 320 | 171 | 177 | 240 | 276 | 227 | 51 | 29 | 225 | 298 | 65 | 27 | 256 | 214 | 228 | 211 | 201 | 204 | 209 | 196 | 193 | 181 | 237 | 240 |
| 13 | 187 | 201 | 211 | 214 | 209 | 216 | 276 | 252 | 290 | 268 | 311 | 315 | 0 | 333 | 348 | 294 | 269 | 212 | 194 | 194 | 153 | 190 | 151 | 274 | 240 |
| 14 | 266 | 275 | 262 | 256 | 259 | 233 | 287 | 290 | 283 | 284 | 282 | 297 | 315 | 330 | 306 | 295 | 301 | 341 | 156 | 178 | 204 | 226 | 254 | 225 | 240 |
| 15 | 265 | 129 | 141 | 161 | 139 | 135 | 140 | 136 | 135 | 170 | 210 | 206 | 201 | 220 | 216 | 215 | 161 | 134 | 129 | 126 | 123 | 241 | 132 | 127 | 157 |
| 16 | 101 | 128 | 120 | 106 | 121 | 125 | 130 | 115 | 162 | 202 | 214 | 235 | 214 | 226 | 218 | 214 | 210 | 221 | 214 | 213 | 212 | 211 | 118 | 145 | 178 |
| 17 | 173 | 137 | 153 | 169 | 143 | 151 | 94 | 180 | 205 | 207 | 197 | 202 | 199 | 197 | 202 | 212 | 216 | 201 | 217 | 267 | 246 | 132 | 121 | 140 | 182 |
| 18 | 181 | 199 | 77 | 134 | 129 | 335 | (CM) | (CM) | (CM) | 346 | 320 | 331 | 332 | 355 | 357 | 359 | 8 | 346 | 330 | 328 | 318 | 325 | 327 | 342 | 342 |
| 19 | 330 | 333 | 338 | 338 | 3 | 8 | 295 | 265 | 251 | 279 | 332 | 317 | 339 | 83 | 233 | 220 | 219 | 195 | 211 | 202 | 191 | 181 | 196 | 199 | 268 |
| 20 | 202 | 194 | 185 | 174 | 194 | 186 | 192 | 198 | 199 | 198 | 206 | 208 | 195 | 200 | 195 | 185 | 195 | 193 | 193 | 197 | 210 | 207 | 205 | 197 | 197 |
| 21 | 191 | 195 | 39 | 75 | 72 | 204 | 225 | 183 | 182 | 195 | 175 | 166 | 191 | 189 | 224 | 199 | 187 | 163 | 150 | 163 | 119 | 161 | 188 | 191 | 175 |
| 22 | 150 | 193 | 221 | 233 | 290 | 296 | 296 | 309 | 312 | 297 | 301 | 312 | 307 | 288 | 325 | 324 | 337 | 265 | 202 | 154 | 225 | 9 | 212 | 280 | 280 |
| 23 | 212 | 119 | 199 | 210 | 200 | 345 | 289 | (CM) | (CM) | 109 | 207 | 228 | 200 | 223 | 226 | 226 | 220 | 190 | 198 | 202 | 198 | 200 | 195 | 199 | 211 |
| 24 | 192 | 187 | 184 | 176 | 187 | 171 | 171 | 186 | 188 | 192 | 192 | 189 | 191 | 193 | 169 | 159 | 129 | 159 | 143 | 187 | 178 | 175 | 86 | 125 | 173 |
| 25 | 85 | 151 | 132 | 120 | 151 | 178 | 125 | 150 | 138 | 142 | 152 | 180 | 181 | 180 | 169 | 177 | 229 | 251 | 27 | 147 | 107 | 152 | 259 | 311 | 158 |
| 26 | 287 | 284 | 317 | 317 | 323 | 332 | 325 | 329 | 326 | 333 | 336 | 339 | 337 | 337 | 328 | 337 | 337 | 331 | 335 | 334 | 335 | 315 | 310 | 302 | 324 |
| 27 | 297 | 301 | 308 | 308 | 308 | 305 | 299 | 301 | 323 | 333 | 336 | 343 | 344 | 6 | 356 | 5 | 324 | 356 | 331 | 338 | 280 | 253 | 165 | 173 | 319 |
| 28 | 152 | 202 | 199 | 186 | 184 | 143 | 201 | 175 | 200 | 111 | 90 | 188 | 216 | 215 | 205 | 201 | 206 | 204 | 199 | 206 | 211 | 215 | 200 | 187 | 191 |
| 29 | 208 | 205 | 207 | 213 | 206 | 202 | 208 | 6 | 289 | 259 | 241 | 257 | 258 | 245 | 294 | 315 | 315 | 287 | 231 | 222 | 231 | 281 | 71 | 147 | 244 |
| 30 | 160 | 172 | (CM) | 42 | 119 | 155 | 174 | 164 | 184 | 195 | 199 | 197 | 202 | 201 | 198 | 187 | 192 | 176 | 88 | 101 | 178 | 85 | 135 | 166 | 166 |
| PV | 185 | 181 | 179 | 170 | 175 | 185 | 211 | 173 | 177 | 215 | 253 | 256 | 249 | 229 | 232 | 230 | 232 | 213 | 203 | 190 | 183 | 199 | 175 | 185 | 208 |

WIND DIRECTION @ 60M
DEGREES

CB-TRACT
TRAILER A23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | PREV |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 1 | 354 | 178 | 180 | 165 | 163 | 158 | 157 | 145 | 138 | 198 | 216 | 219 | 209 | 215 | 202 | 201 | 211 | 216 | 199 | 193 | 126 | 159 | 188 | 176 | 184 |
| 2 | 188 | 176 | 163 | 162 | 153 | 143 | 141 | 142 | 245 | 306 | 337 | 328 | 217 | 192 | 282 | 322 | 310 | 90 | 186 | 240 | 207 | 255 | 186 | 176 | 204 |
| 3 | 202 | 209 | 259 | 293 | 294 | 252 | 323 | 335 | 159 | 58 | 74 | 31 | 237 | 238 | 209 | 243 | 342 | 16 | 55 | 81 | 35 | 289 | 226 | 227 | 296 |
| 4 | 151 | 131 | 130 | 174 | 139 | 151 | 152 | 117 | 154 | 68 | 341 | 244 | 210 | 212 | 207 | 209 | 210 | 191 | 187 | 187 | 178 | 155 | 141 | 120 | 169 |
| 5 | 102 | 293 | 167 | 174 | 184 | 195 | 176 | 9 | 68 | 186 | 210 | 206 | 206 | 212 | 216 | 216 | 234 | 252 | 340 | 75 | 307 | 276 | 274 | 270 | 218 |
| 6 | 235 | 199 | 153 | 126 | 139 | 148 | 288 | 229 | 101 | 52 | 329 | 297 | 301 | 238 | 226 | 212 | 207 | 199 | 201 | 202 | 197 | 194 | 191 | 188 | 203 |
| 7 | 185 | 194 | 189 | 183 | 174 | 192 | 185 | 186 | 188 | 187 | 185 | 185 | 195 | 203 | 200 | 202 | 208 | 202 | 201 | 190 | 178 | 193 | 201 | 210 | 192 |
| 8 | 218 | 223 | 298 | 335 | 307 | 302 | 311 | 339 | 332 | 336 | 315 | 305 | 312 | 320 | 335 | 333 | 346 | 319 | 291 | 303 | 347 | 342 | 326 | 303 | 315 |
| 9 | 281 | 279 | 267 | 266 | 243 | 248 | 150 | 166 | 136 | 115 | 107 | 0 | 261 | 225 | 199 | 171 | 162 | 159 | 141 | 148 | 152 | 151 | 145 | 159 | 183 |
| 10 | 165 | 162 | 113 | 155 | 166 | 144 | 186 | 160 | 158 | 164 | 78 | 56 | 222 | 205 | 210 | 202 | 191 | 151 | 158 | 141 | 139 | 175 | 172 | 164 | 162 |
| 11 | 170 | 150 | 175 | 172 | 149 | 127 | 176 | 184 | 128 | 188 | 195 | 219 | 208 | 211 | 210 | 215 | 217 | 232 | 270 | 308 | 188 | 205 | 269 | 254 | 197 |
| 12 | 261 | 292 | 280 | 231 | 254 | 272 | 244 | 56 | 41 | 155 | 279 | 75 | 37 | 224 | 210 | 202 | 205 | 202 | 206 | 211 | 200 | 195 | 191 | 188 | 222 |
| 13 | 188 | 200 | 211 | 212 | 208 | 215 | 276 | 252 | 284 | 268 | 310 | 312 | 354 | 332 | 347 | 292 | 269 | 212 | 197 | 197 | 184 | 197 | 183 | 235 | 241 |
| 14 | 262 | 277 | 266 | 259 | 261 | 295 | 289 | 292 | 284 | 286 | 284 | 299 | 317 | 330 | 308 | 297 | 303 | 355 | 94 | 169 | 205 | 235 | 264 | 250 | 280 |
| 15 | 231 | 152 | 143 | 167 | 148 | 153 | 161 | 151 | 161 | 174 | 208 | 204 | 197 | 218 | 214 | 184 | 163 | 152 | 147 | 149 | 128 | 145 | 144 | 140 | 167 |
| 16 | 172 | 124 | 116 | 209 | 75 | 127 | 149 | 141 | 170 | 204 | 214 | 232 | 213 | 225 | 218 | 213 | 209 | 219 | 215 | 215 | 213 | 213 | 183 | 165 | 189 |
| 17 | 181 | 174 | 179 | 173 | 166 | 164 | 115 | 194 | 204 | 203 | 194 | 199 | 197 | 190 | 196 | 201 | 194 | 196 | 213 | 266 | 254 | 135 | 133 | 179 | 187 |
| 18 | 200 | 202 | 335 | 156 | 175 | 342 | (CM) | (CM) | (CM) | (CM) | (CM) | (CM) | (CM) | 356 | 357 | 360 | 9 | 348 | 335 | 333 | 323 | 337 | 330 | 334 | 334 |
| 19 | 332 | 335 | 341 | 342 | 357 | 12 | 317 | 313 | 270 | 279 | 334 | 316 | 335 | 83 | 233 | 220 | 219 | 195 | 211 | 202 | 192 | 183 | 196 | 199 | 277 |
| 20 | 203 | 194 | 188 | 180 | 195 | 186 | 192 | 199 | 201 | 197 | 206 | 207 | 197 | 194 | 200 | 194 | 187 | 196 | 194 | 197 | 197 | 210 | 206 | 204 | 197 |
| 21 | 192 | 194 | 194 | 194 | 82 | 104 | 202 | 216 | 191 | 187 | 197 | 179 | 192 | 191 | 223 | 198 | 188 | 167 | 158 | 175 | 133 | 160 | 190 | 200 | 181 |
| 22 | 150 | 200 | 225 | 239 | 301 | 301 | 300 | 312 | 312 | 298 | 300 | 314 | 309 | 291 | 324 | 325 | 341 | 315 | 277 | 219 | 148 | 184 | 355 | (CM) | 288 |
| 23 | 229 | 213 | 173 | 214 | 210 | (CM) | (CM) | (CM) | (CM) | 160 | 210 | 229 | 289 | 225 | 226 | 226 | 220 | 194 | 201 | 205 | 202 | 204 | 209 | 201 | 211 |
| 24 | 194 | 189 | 186 | 178 | 189 | 179 | 183 | 188 | 192 | 194 | 193 | 190 | 191 | 192 | 172 | 163 | 141 | 169 | 159 | 188 | 178 | 176 | 101 | 133 | 177 |
| 25 | 97 | 159 | 141 | 147 | 158 | 178 | 134 | 155 | 153 | 163 | 172 | 162 | 181 | 178 | 169 | 176 | 228 | 246 | 287 | 163 | 120 | 155 | 258 | 317 | 171 |
| 26 | 294 | 289 | 320 | 320 | 326 | 335 | 327 | 331 | 330 | 326 | 339 | 343 | 339 | 331 | 337 | 331 | 337 | 341 | 345 | 341 | 341 | 322 | 317 | 309 | 329 |
| 27 | 306 | 307 | 320 | 318 | 318 | 321 | 313 | 317 | 332 | 340 | 339 | 343 | 345 | 6 | 356 | 7 | 330 | 0 | 345 | 351 | 298 | 254 | 172 | 330 | 329 |
| 28 | 150 | 207 | 212 | 199 | 202 | 172 | 168 | 172 | 208 | 158 | 96 | 180 | 214 | 215 | 204 | 208 | 204 | 204 | 197 | 205 | 211 | 215 | 202 | 188 | 193 |
| 29 | 207 | 206 | 207 | 213 | 208 | 204 | 214 | 285 | 274 | 262 | 244 | 259 | 260 | 249 | 297 | 317 | 315 | 289 | 239 | 240 | 255 | 276 | 0 | 142 | 250 |
| 30 | 151 | 181 | 172 | 191 | 139 | 177 | 191 | 187 | 194 | 195 | 199 | 198 | 201 | 200 | 198 | 187 | 191 | 189 | 178 | 100 | 118 | 176 | 104 | 156 | 176 |
| PV | 201 | 203 | 195 | 197 | 189 | 195 | 205 | 199 | 191 | 203 | 239 | 247 | 240 | 226 | 230 | 226 | 229 | 212 | 207 | 200 | 185 | 203 | 204 | 197 | 215 |

WIND DIRECTION AND
VECTOR AVERAGE VELOCITY (DEG & MPS)
10 METER LEVEL

CB-TRACT
TRAILER A423
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | 21 | 22 | 23 | 24 | VECTOR | |
|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | | | | DIR | VEL |
| 1 | 214 | 188 | *** | 155 | 169 | 163 | 168 | 113 | 109 | 204 | 223 | 228 | 216 | 220 | 207 | 207 | 213 | 217 | 207 | 156 | 191 | 145 | 221 | 220 | 200 | 1.9 |
| 2 | 197 | 213 | 206 | 192 | 240 | 341 | 203 | 125 | 270 | 7 | 345 | 330 | 223 | 197 | 286 | 324 | 305 | 192 | 221 | 210 | 210 | 294 | 117 | 225 | 243 | 0.7 |
| 3 | *** | *** | 215 | *** | 192 | 215 | 354 | 225 | 107 | 45 | 76 | 23 | 234 | 244 | 205 | 247 | 342 | 22 | *** | 229 | 294 | 230 | 148 | 22 | 252 | 0.3 |
| 4 | 207 | 225 | 207 | 193 | 164 | 175 | 236 | 210 | *** | 5 | 345 | 253 | 215 | 216 | 213 | 218 | 214 | 194 | 203 | 145 | 140 | 146 | 152 | 98 | 197 | 1.5 |
| 5 | 79 | 140 | 169 | 145 | 94 | 66 | 86 | 77 | 77 | 189 | 218 | 214 | 208 | 204 | 218 | 222 | 239 | 255 | 283 | 215 | 235 | 261 | 232 | 213 | 208 | 1.6 |
| 6 | 207 | 143 | *** | 202 | 215 | 228 | 267 | 139 | 94 | 39 | 334 | 299 | 308 | 245 | 231 | 218 | 212 | 196 | 203 | 203 | 163 | 194 | 193 | 182 | 212 | 1.3 |
| 7 | 168 | 131 | 184 | 49 | 99 | 60 | 186 | 190 | 195 | 194 | 194 | 191 | 201 | 209 | 205 | 207 | 214 | 207 | 203 | 189 | 178 | 198 | 208 | 213 | 198 | 4.3 |
| 8 | 223 | 228 | 309 | 341 | 294 | 299 | 312 | 342 | 337 | 316 | 304 | 311 | 318 | 336 | 336 | 350 | 312 | 266 | 292 | 354 | 13 | 13 | 13 | 322 | 2.2 | |
| 9 | 14 | 14 | 14 | 13 | 13 | 12 | 14 | 12 | 74 | 95 | 68 | 344 | 270 | 261 | 210 | 175 | 172 | 154 | 120 | 114 | 109 | 112 | 127 | 91 | 0.6 | |
| 10 | 115 | 140 | 97 | 172 | 166 | 118 | 188 | 165 | 158 | 109 | 60 | 31 | 310 | 205 | 222 | 211 | 190 | 146 | 143 | 133 | 123 | 147 | 139 | 123 | 148 | 1.2 |
| 11 | 117 | 112 | 169 | 161 | 134 | 109 | 176 | 191 | 96 | 194 | 202 | 194 | 213 | 218 | 217 | 220 | 222 | 241 | 289 | 19 | 173 | 197 | 240 | 225 | 205 | 2.7 |
| 12 | 246 | 9 | 172 | 184 | 223 | 278 | 189 | 59 | 5 | 240 | 303 | 52 | 23 | 232 | 215 | 214 | 210 | 204 | 207 | 209 | 202 | 200 | 194 | 193 | 210 | 1.6 |
| 13 | 191 | 205 | 216 | 217 | 213 | 220 | 279 | 255 | 300 | 274 | 313 | 317 | 6 | 341 | 351 | 297 | 268 | 204 | 202 | 198 | 113 | 188 | 112 | 243 | 231 | 2.8 |
| 14 | 269 | 280 | 255 | 257 | 261 | 266 | 266 | 270 | 287 | 289 | 286 | 303 | 320 | 338 | 310 | 298 | 307 | 323 | 201 | 207 | 210 | 228 | 145 | 201 | 275 | 2.2 |
| 15 | 193 | 143 | 133 | 180 | 148 | 142 | 133 | 133 | 109 | 174 | 215 | 211 | 207 | 226 | 222 | 191 | 168 | 136 | 139 | 126 | 127 | 150 | 134 | 138 | 167 | 1.6 |
| 16 | 167 | 136 | 127 | 117 | 209 | 137 | 124 | 107 | 157 | 204 | 220 | 242 | 219 | 230 | 222 | 219 | 215 | 223 | 217 | 215 | 211 | 210 | 64 | 134 | 205 | 3.5 |
| 17 | 168 | 115 | 126 | 167 | 94 | 147 | 86 | *** | 208 | 209 | 201 | 206 | 202 | 195 | 199 | 206 | 201 | 203 | 224 | 270 | 237 | 141 | 122 | 122 | 198 | 3.5 |
| 18 | 152 | 199 | 83 | 135 | 115 | 340 | *** | *** | *** | *** | 320 | 335 | 336 | 359 | 4 | 5 | 12 | 349 | 333 | 333 | 333 | 329 | 330 | 345 | 2.2 | |
| 19 | 334 | 337 | 347 | *** | *** | *** | *** | *** | 235 | 277 | 340 | 329 | 349 | 86 | 236 | 224 | 222 | 200 | 216 | 207 | 194 | 186 | 201 | 204 | 226 | 1.7 |
| 20 | 207 | 197 | 188 | 176 | 198 | 191 | 198 | 201 | 202 | 209 | 212 | 212 | 198 | 203 | 199 | 191 | 199 | 197 | 194 | 200 | 215 | 209 | 208 | 202 | 4.6 | |
| 21 | 196 | 201 | 45 | 71 | 59 | 210 | 326 | 180 | 184 | 198 | 177 | 172 | 194 | 229 | 204 | 329 | 340 | 192 | 168 | 157 | 158 | 123 | 171 | 188 | 188 | 2.2 |
| 22 | 155 | 191 | 214 | 240 | 287 | 299 | 299 | 314 | 316 | 300 | 308 | 315 | 311 | 292 | 330 | 329 | 340 | 292 | 256 | 200 | 185 | 232 | 243 | 214 | 286 | 1.3 |
| 23 | 217 | 120 | 199 | 208 | 199 | 281 | 202 | 130 | 130 | 99 | 210 | 230 | 297 | 224 | 231 | 230 | 225 | 197 | 204 | 207 | 203 | 205 | 207 | 206 | 214 | 2.0 |
| 24 | 196 | 190 | 189 | 183 | 190 | 170 | 163 | 186 | 189 | 196 | 196 | 191 | 196 | 198 | 171 | 161 | 133 | 160 | 139 | 191 | 184 | 179 | 83 | 181 | 3.7 | |
| 25 | 84 | 152 | 133 | 112 | 151 | 184 | 130 | 154 | 132 | 118 | 128 | 184 | 186 | 186 | 175 | 183 | 234 | 258 | 55 | 144 | 111 | 164 | 254 | 310 | 169 | 2.0 |
| 26 | 287 | 284 | 321 | 320 | 327 | 336 | 329 | 332 | 331 | 327 | 339 | 342 | 340 | 340 | 332 | 335 | 341 | 343 | 338 | 338 | 337 | 319 | 310 | 304 | 330 | 4.9 |
| 27 | 296 | 303 | 308 | 308 | 309 | 306 | 298 | 302 | 324 | 335 | 339 | 347 | 347 | 11 | 0 | 10 | 325 | 358 | 325 | 331 | 267 | 261 | 259 | 210 | 329 | 2.1 |
| 28 | 209 | 210 | 211 | 207 | 207 | 207 | 209 | 210 | 107 | 111 | 187 | 218 | 210 | 210 | 214 | 210 | 208 | 205 | 211 | 215 | 219 | 202 | 193 | 209 | 240 | 2.3 |
| 29 | 213 | 209 | 210 | 217 | 210 | 203 | 202 | 87 | 326 | 261 | 244 | 261 | 249 | 298 | 320 | 320 | 290 | 228 | 215 | 216 | 272 | 39 | 63 | 240 | 2.3 | |
| 30 | 170 | 171 | 270 | 33 | 45 | 45 | 71 | 157 | 167 | 201 | 201 | 200 | 207 | 206 | 203 | 191 | 198 | 197 | 181 | 91 | 102 | 186 | 73 | 117 | 186 | 1.5 |
| VD | 203 | 205 | 214 | 209 | 215 | 224 | 234 | 202 | 214 | 219 | 236 | 241 | 233 | 223 | 225 | 226 | 224 | 217 | 211 | 204 | 189 | 200 | 189 | 198 | 218 | |
| VV | 1.1 | 1.1 | 1.0 | 1.0 | 1.1 | 0.9 | 0.6 | 0.5 | 0.6 | 1.4 | 1.6 | 1.7 | 2.3 | 2.6 | 2.5 | 2.5 | 2.2 | 1.7 | 1.6 | 1.5 | 1.4 | 1.4 | 1.0 | 1.2 | | 1.4 |

TOTAL NUMBER OF OBSERVATIONS = 703

NOTE: **** = MISSING DATA

CB-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

WIND DIRECTION AND
VECTOR AVERAGE VELOCITY (DEG & MPS)
30 METER LEVEL

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | VECTOR | |
|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | DIR | VEL |
| 1 | 128 | 178 | 165 | 160 | 163 | 157 | 157 | 125 | 117 | 200 | 218 | 223 | 212 | 216 | 204 | 203 | 212 | 213 | 190 | 159 | 145 | 153 | 189 | 183 | 190 | 2.6 |
| 2 | 180 | 193 | 185 | 159 | 198 | 130 | 171 | 118 | 258 | 331 | 339 | 325 | 219 | 193 | 283 | 320 | 304 | 164 | 219 | 211 | 201 | 337 | 120 | 180 | 235 | 0.8 |
| 3 | 196 | 11 | 249 | *** | *** | 274 | 15 | 343 | 114 | 47 | 75 | 27 | 230 | 240 | 206 | 250 | 341 | 16 | 68 | *** | 352 | 284 | 184 | 173 | 290 | 0.3 |
| 4 | 73 | *** | 166 | 214 | 147 | 149 | 191 | 114 | 132 | 19 | 339 | 246 | 213 | 214 | 209 | 213 | 210 | 190 | 188 | 174 | 155 | 141 | 137 | 107 | 186 | 2.1 |
| 5 | 61 | 114 | 157 | 148 | 156 | 124 | 119 | 69 | 75 | 186 | 213 | 209 | 207 | 202 | 213 | 217 | 235 | 251 | 301 | 105 | 270 | 266 | 252 | 233 | 206 | 2.2 |
| 6 | 216 | 63 | 79 | 149 | 174 | 216 | 292 | 183 | 95 | 38 | 329 | 295 | 302 | 237 | 227 | 213 | 208 | 195 | 199 | 199 | 187 | 191 | 202 | 182 | 207 | 2.0 |
| 7 | 178 | 179 | 188 | 62 | 140 | 155 | 183 | 187 | 190 | 189 | 188 | 186 | 197 | 204 | 202 | 203 | 210 | 203 | 201 | 187 | 174 | 194 | 202 | 210 | 194 | 6.5 |
| 8 | 218 | 223 | 302 | 335 | 294 | 297 | 308 | 337 | 328 | 333 | 312 | 301 | 306 | 315 | 328 | 330 | 346 | 311 | 296 | 308 | 346 | 355 | 355 | 316 | 3.1 | |
| 9 | 355 | 354 | 355 | 355 | 354 | 352 | 355 | 355 | 90 | 101 | 75 | 349 | 265 | 238 | 203 | 170 | 163 | 149 | 122 | 121 | 124 | 125 | 119 | 137 | 110 | 0.6 |
| 10 | 139 | 148 | 101 | 153 | 158 | 117 | 169 | 149 | 151 | 120 | 60 | 39 | 301 | 201 | 216 | 208 | 188 | 143 | 143 | 131 | 122 | 157 | 154 | 140 | 148 | 1.9 |
| 11 | 143 | 126 | 168 | 159 | 136 | 112 | 173 | 168 | 107 | 191 | 202 | 206 | 211 | 214 | 213 | 221 | 229 | 241 | 278 | 340 | 173 | 191 | 259 | 246 | 206 | 3.8 |
| 12 | 256 | 320 | 171 | 177 | 240 | 276 | 227 | 51 | 29 | 225 | 298 | 65 | 27 | 256 | 214 | 228 | 211 | 201 | 204 | 209 | 196 | 193 | 191 | 187 | 212 | 2.5 |
| 13 | 187 | 201 | 211 | 214 | 209 | 216 | 276 | 252 | 290 | 268 | 311 | 315 | 0 | 333 | 348 | 294 | 269 | 212 | 194 | 194 | 153 | 190 | 161 | 237 | 226 | 4.4 |
| 14 | 266 | 275 | 262 | 256 | 259 | 293 | 287 | 290 | 283 | 284 | 282 | 297 | 315 | 330 | 306 | 295 | 301 | 341 | 156 | 178 | 204 | 226 | 254 | 225 | 278 | 3.3 |
| 15 | 205 | 129 | 141 | 161 | 139 | 135 | 140 | 136 | 135 | 170 | 210 | 206 | 201 | 220 | 216 | 185 | 161 | 134 | 129 | 128 | 123 | 141 | 132 | 127 | 162 | 2.3 |
| 16 | 161 | 128 | 120 | 106 | 121 | 125 | 130 | 115 | 162 | 202 | 214 | 235 | 214 | 226 | 218 | 214 | 210 | 221 | 214 | 213 | 212 | 211 | 118 | 145 | 202 | 3.7 |
| 17 | 173 | 137 | 153 | 169 | 143 | 151 | 94 | 180 | 205 | 207 | 197 | 202 | 199 | 197 | 202 | 212 | 216 | 201 | 217 | 267 | 246 | 132 | 121 | 140 | 198 | 4.9 |
| 18 | 181 | 199 | 77 | 134 | 129 | 335 | *** | *** | *** | 346 | 320 | 331 | 332 | 355 | 357 | 359 | 8 | 346 | 330 | 328 | 318 | 333 | 325 | 327 | 337 | 3.1 |
| 19 | 330 | 333 | 338 | 338 | 3 | 8 | 295 | 265 | 251 | 279 | 332 | 317 | 339 | 333 | 233 | 220 | 219 | 195 | 211 | 202 | 191 | 181 | 196 | 199 | 232 | 1.8 |
| 20 | 202 | 194 | 185 | 174 | 194 | 186 | 192 | 198 | 199 | 198 | 206 | 208 | 208 | 195 | 200 | 195 | 185 | 195 | 193 | 193 | 197 | 210 | 207 | 205 | 198 | 6.4 |
| 21 | 191 | 195 | 39 | 75 | 72 | 204 | 225 | 183 | 182 | 195 | 175 | 166 | 191 | 189 | 224 | 199 | 187 | 163 | 150 | 163 | 119 | 161 | 188 | 191 | 183 | 3.3 |
| 22 | 150 | 193 | 221 | 233 | 290 | 296 | 296 | 309 | 312 | 297 | 301 | 312 | 307 | 288 | 325 | 324 | 337 | 297 | 265 | 202 | 154 | 225 | 209 | 199 | 210 | 3.1 |
| 23 | 212 | 119 | 199 | 210 | 345 | 289 | *** | *** | *** | 109 | 207 | 228 | 290 | 253 | 226 | 220 | 220 | 190 | 178 | 187 | 175 | 86 | 125 | 177 | 5.3 | |
| 24 | 192 | 187 | 184 | 176 | 187 | 171 | 171 | 186 | 188 | 192 | 192 | 189 | 191 | 193 | 169 | 159 | 129 | 159 | 143 | 187 | 178 | 175 | 259 | 311 | 166 | 3.0 |
| 25 | 85 | 151 | 132 | 120 | 151 | 178 | 125 | 150 | 138 | 142 | 157 | 180 | 181 | 190 | 169 | 177 | 229 | 251 | 27 | 147 | 107 | 152 | 310 | 302 | 327 | 7.0 |
| 26 | 287 | 284 | 317 | 317 | 323 | 332 | 325 | 329 | 326 | 323 | 336 | 339 | 337 | 337 | 328 | 332 | 337 | 341 | 335 | 334 | 335 | 315 | 165 | 173 | 327 | 2.8 |
| 27 | 297 | 301 | 308 | 308 | 308 | 305 | 299 | 301 | 323 | 333 | 336 | 343 | 344 | 6 | 356 | 5 | 324 | 356 | 331 | 338 | 280 | 253 | 165 | 173 | 327 | 2.8 |
| 28 | 152 | 202 | 199 | 186 | 184 | 143 | 201 | 175 | 200 | 111 | 90 | 188 | 216 | 215 | 205 | 210 | 206 | 204 | 199 | 206 | 211 | 215 | 200 | 187 | 203 | 3.1 |
| 29 | 208 | 205 | 207 | 213 | 206 | 202 | 208 | 6 | 289 | 259 | 241 | 257 | 258 | 245 | 294 | 315 | 315 | 287 | 231 | 222 | 231 | 281 | 171 | 147 | 236 | 3.6 |
| 30 | 160 | 172 | *** | 42 | 119 | 155 | 174 | 164 | 184 | 195 | 199 | 197 | 202 | 201 | 198 | 187 | 192 | 192 | 176 | 88 | 101 | 178 | 85 | 135 | 181 | 2.6 |
| VD | 199 | 207 | 210 | 210 | 207 | 217 | 235 | 210 | 210 | 219 | 232 | 235 | 228 | 220 | 222 | 224 | 222 | 212 | 205 | 200 | 190 | 197 | 188 | 194 | 214 | |
| VV | 1.7 | 1.7 | 1.4 | 1.4 | 1.5 | 1.3 | 1.0 | 0.8 | 1.1 | 1.9 | 2.2 | 2.3 | 3.3 | 3.5 | 3.5 | 3.6 | 3.2 | 2.5 | 2.3 | 2.4 | 2.1 | 2.1 | 1.6 | 1.9 | | 2.0 |

TOTAL NUMBER OF OBSERVATIONS = 710

NOTE: **** = MISSING DATA

CR-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

WIND DIRECTION AND
VELOCITY AVERAGE VELOCITY (DEG & MPS)
60 METER LEVEL

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | VECTOR | |
|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | DIR | VEL |
| 1 | 354 | 178 | 180 | 165 | 163 | 158 | 157 | 145 | 138 | 198 | 216 | 219 | 209 | 215 | 202 | 201 | 211 | 216 | 199 | 193 | 126 | 159 | 188 | 176 | 190 | 3.1 |
| 2 | 188 | 176 | 163 | 162 | 153 | 143 | 141 | 142 | 245 | 306 | 337 | 328 | 317 | 192 | 282 | 322 | 310 | 90 | 186 | 240 | 207 | 255 | 186 | 176 | 220 | 0.9 |
| 3 | 202 | 209 | 259 | 293 | 294 | 252 | 323 | 335 | 59 | 58 | 74 | 31 | 227 | 238 | 206 | 243 | 342 | 16 | 55 | 41 | 35 | 289 | 226 | 227 | 180 | 0.4 |
| 4 | 151 | 131 | 130 | 174 | 139 | 151 | 182 | 117 | 154 | 65 | 341 | 244 | 210 | 212 | 207 | 209 | 210 | 191 | 187 | 187 | 178 | 155 | 141 | 120 | 183 | 2.6 |
| 5 | 102 | 293 | 167 | 174 | 184 | 195 | 176 | 9 | 68 | 186 | 210 | 206 | 206 | 203 | 212 | 216 | 234 | 252 | 340 | 75 | 307 | 276 | 274 | 270 | 211 | 2.6 |
| 6 | 235 | 199 | 153 | 126 | 139 | 148 | 288 | 229 | 101 | 52 | 329 | 297 | 301 | 238 | 226 | 212 | 207 | 199 | 201 | 202 | 197 | 194 | 191 | 188 | 205 | 2.7 |
| 7 | 185 | 194 | 189 | 183 | 174 | 192 | 185 | 186 | 188 | 187 | 185 | 185 | 195 | 203 | 200 | 202 | 208 | 202 | 201 | 190 | 178 | 193 | 201 | 194 | 8.0 | |
| 8 | 218 | 223 | 298 | 335 | 307 | 302 | 311 | 339 | 332 | 336 | 315 | 305 | 312 | 320 | 335 | 333 | 346 | 319 | 291 | 303 | 347 | 342 | 326 | 303 | 316 | 3.7 |
| 9 | 281 | 279 | 267 | 266 | 243 | 248 | 150 | 166 | 136 | 115 | 107 | 0 | 261 | 225 | 199 | 171 | 162 | 159 | 141 | 148 | 152 | 151 | 145 | 159 | 175 | 1.4 |
| 10 | 165 | 162 | 113 | 155 | 166 | 144 | 186 | 160 | 156 | 164 | 78 | 56 | 222 | 205 | 210 | 202 | 191 | 151 | 158 | 141 | 139 | 175 | 172 | 164 | 163 | 2.4 |
| 11 | 170 | 150 | 175 | 172 | 149 | 127 | 176 | 184 | 128 | 188 | 195 | 191 | 208 | 211 | 210 | 215 | 217 | 232 | 270 | 308 | 188 | 205 | 269 | 254 | 204 | 4.8 |
| 12 | 261 | 292 | 280 | 231 | 254 | 272 | 244 | 156 | 41 | 155 | 279 | 75 | 37 | 224 | 210 | 207 | 205 | 202 | 206 | 211 | 200 | 195 | 191 | 188 | 210 | 3.3 |
| 13 | 188 | 200 | 211 | 212 | 208 | 215 | 276 | 252 | 284 | 268 | 310 | 312 | 354 | 332 | 347 | 292 | 269 | 212 | 197 | 197 | 184 | 197 | 183 | 235 | 225 | 5.3 |
| 14 | 262 | 277 | 266 | 259 | 261 | 295 | 289 | 292 | 284 | 286 | 284 | 299 | 317 | 336 | 308 | 297 | 303 | 355 | 94 | 169 | 205 | 235 | 264 | 250 | 281 | 3.9 |
| 15 | 231 | 152 | 143 | 167 | 148 | 153 | 161 | 151 | 161 | 174 | 208 | 204 | 197 | 218 | 214 | 184 | 183 | 152 | 147 | 149 | 128 | 145 | 144 | 140 | 172 | 2.7 |
| 16 | 172 | 124 | 116 | 209 | 75 | 127 | 149 | 141 | 170 | 204 | 214 | 232 | 213 | 225 | 218 | 213 | 209 | 219 | 215 | 215 | 213 | 213 | 183 | 165 | 206 | 4.5 |
| 17 | 181 | 174 | 179 | 173 | 166 | 164 | 115 | 194 | 204 | 203 | 194 | 199 | 197 | 190 | 196 | 201 | 194 | 196 | 213 | 266 | 254 | 135 | 133 | 179 | 195 | 6.1 |
| 18 | 200 | 202 | *** | 156 | 175 | 342 | *** | *** | *** | *** | *** | *** | *** | *** | 356 | 357 | 360 | 9 | 348 | 335 | 333 | 323 | 337 | 330 | 330 | 3.5 |
| 19 | 332 | 335 | 341 | 342 | 357 | 12 | 317 | 313 | 270 | 279 | 334 | 316 | 335 | 83 | 233 | 220 | 219 | 195 | 211 | 202 | 192 | 183 | 196 | 199 | 233 | 1.9 |
| 20 | 303 | 194 | 188 | 180 | 195 | 186 | 192 | 199 | 201 | 197 | 206 | 206 | 207 | 194 | 200 | 194 | 187 | 196 | 194 | 197 | 197 | 210 | 206 | 204 | 198 | 7.4 |
| 21 | 192 | 194 | 194 | 82 | 104 | 202 | 216 | 191 | 187 | 197 | 179 | 167 | 192 | 191 | 223 | 198 | 188 | 167 | 158 | 175 | 133 | 160 | 190 | 200 | 186 | 4.2 |
| 22 | 158 | 200 | 225 | 239 | 301 | 301 | 300 | 312 | 312 | 298 | 300 | 314 | 309 | 291 | 324 | 325 | 341 | 315 | 277 | 219 | 148 | 184 | 355 | *** | 292 | 1.9 |
| 23 | 229 | 213 | 173 | 214 | 210 | *** | *** | *** | *** | 160 | 210 | 229 | 289 | 225 | 226 | 226 | 220 | 194 | 201 | 205 | 202 | 204 | 209 | 201 | 212 | 4.2 |
| 24 | 194 | 189 | 186 | 178 | 189 | 179 | 183 | 188 | 192 | 194 | 193 | 190 | 191 | 192 | 172 | 163 | 141 | 169 | 159 | 188 | 178 | 176 | 101 | 133 | 181 | 6.4 |
| 25 | 97 | 159 | 141 | 147 | 156 | 178 | 134 | 155 | 153 | 163 | 172 | 182 | 181 | 178 | 169 | 176 | 228 | 246 | 287 | 163 | 120 | 155 | 258 | 317 | 170 | 3.7 |
| 26 | 294 | 289 | 320 | 320 | 326 | 335 | 327 | 331 | 330 | 326 | 339 | 343 | 339 | 339 | 331 | 337 | 341 | 345 | 341 | 341 | 341 | 341 | 341 | 341 | 341 | 3.7 |
| 27 | 306 | 307 | 320 | 318 | 318 | 321 | 315 | 317 | 332 | 340 | 339 | 345 | 345 | 6 | 356 | 7 | 330 | 0 | 345 | 351 | 347 | 298 | 254 | 172 | 334 | 3.4 |
| 28 | 150 | 207 | 212 | 199 | 202 | 172 | 168 | 172 | 208 | 158 | 96 | 180 | 214 | 215 | 204 | 208 | 204 | 204 | 197 | 205 | 211 | 215 | 202 | 188 | 202 | 3.8 |
| 29 | 207 | 206 | 207 | 213 | 208 | 204 | 214 | 285 | 274 | 262 | 244 | 259 | 260 | 249 | 297 | 317 | 315 | 289 | 239 | 240 | 255 | 276 | 0 | 142 | 239 | 4.4 |
| 30 | 151 | 181 | 172 | 191 | 139 | 177 | 191 | 187 | 194 | 195 | 198 | 198 | 200 | 200 | 198 | 187 | 191 | 189 | 178 | 100 | 118 | 176 | 104 | 156 | 185 | 3.3 |
| VD | 207 | 211 | 213 | 213 | 208 | 218 | 221 | 211 | 211 | 212 | 224 | 228 | 222 | 218 | 220 | 219 | 217 | 212 | 206 | 205 | 196 | 203 | 199 | 200 | 213 | |
| VV | 2.4 | 2.5 | 2.1 | 1.9 | 1.9 | 1.8 | 1.6 | 1.4 | 1.6 | 2.4 | 2.5 | 2.6 | 3.8 | 3.8 | 3.8 | 3.9 | 3.7 | 3.0 | 2.8 | 2.9 | 2.6 | 2.6 | 2.3 | 2.7 | | 2.6 |

TOTAL NUMBER OF OBSERVATIONS = 707

NOTE: *** = MISSING DATA

SIGMA HORIZ. WIND DIR. @ 10M
DEGREES

CB-TRACT
TRAILER AR23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|--------|---------|---------|------|------|------|------|------|------|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|-----|------|
| 1 | 6 | 13 (CM) | 8 | 18 | 14 | 14 | 7 | 11 | 20 | 14 | 14 | 14 | 14 | 15 | 14 | 12 | 8 | 3 | 4 | 18 | 13 | 9 | 6 | 14 | 12 | 20 |
| 2 | 1 | 3 | 12 | 14 | 17 | 8 | 9 | 5 | 12 | 19 | 16 | 9 | 14 | 25 | 11 | 16 | 8 | 7 | 9 | 10 | 6 | 6 | 8 | 12 | 9 | 11 |
| 3 | 3 (CM) | (CM) | 12 (CM) | 9 | 9 | 9 | 9 | 7 | 12 | 14 | 31 | 21 | 34 | 16 | 23 | 19 | 5 | 8 | (CM) | 5 | 11 | 10 | 7 | 1 | 13 | 34 |
| 4 | 4 | 9 | 11 | 5 | 15 | 8 | 11 | 22 | (CM) | 12 | 15 | 32 | 13 | 14 | 12 | 9 | 7 | 4 | 14 | 18 | 5 | 3 | 6 | 1 | 11 | 32 |
| 5 | 5 | 9 | 20 | 6 | 14 | 16 | 28 | 13 | 10 | 10 | 14 | 9 | 12 | 13 | 12 | 10 | 9 | 12 | 13 | 10 | 7 | 5 | 3 | 6 | 11 | 28 |
| 6 | 3 | 7 (CM) | 12 | 4 | 14 | 13 | 11 | 7 | 21 | 25 | 27 | 34 | 24 | 24 | 11 | 8 | 6 | 6 | 8 | 18 | 8 | 10 | 13 | 14 | 34 | |
| 7 | 32 | 17 | 27 | 22 | 41 | 27 | 10 | 9 | 10 | 9 | 12 | 12 | 10 | 11 | 12 | 12 | 9 | 8 | 8 | 8 | 6 | 8 | 9 | 9 | 14 | 41 |
| 8 | 9 | 10 | 9 | 10 | 8 | 8 | 10 | 8 | 10 | 8 | 8 | 8 | 8 | 8 | 7 | 8 | 8 | 7 | 6 | 11 | 7 | 7 | 0 | 0 | 7 | 11 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 12 | 8 | 15 | 19 | 11 | 8 | 5 | 3 | 4 | 3 | 7 | 6 | 6 | 5 | 5 | 19 |
| 10 | 11 | 6 | 5 | 7 | 7 | 5 | 6 | 7 | 5 | 10 | 12 | 19 | 10 | 17 | 24 | 13 | 17 | 15 | 6 | 12 | 8 | 9 | 13 | 14 | 11 | 24 |
| 11 | 10 | 20 | 21 | 14 | 17 | 13 | 19 | 30 | 27 | 34 | 27 | 16 | 23 | 13 | 11 | 10 | 8 | 8 | 12 | 13 | 17 | 9 | 25 | 8 | 9 | 17 |
| 12 | 9 | 8 | 8 | 8 | 6 | 13 | 10 | 7 | 11 | 8 | 14 | 34 | 22 | 17 | 10 | 9 | 9 | 7 | 8 | 6 | 7 | 8 | 10 | 7 | 11 | 34 |
| 13 | 13 | 8 | 8 | 9 | 8 | 9 | 8 | 10 | 11 | 20 | 27 | 30 | 17 | 34 | 14 | 15 | 12 | 10 | 7 | 6 | 12 | 19 | 11 | 17 | 11 | 14 |
| 14 | 16 | 11 | 16 | 11 | 2 | 4 | 6 | 0 | 6 | 10 | 11 | 12 | 15 | 13 | 17 | 17 | 16 | 7 | 6 | 4 | 4 | 3 | 4 | 5 | 6 | 8 |
| 15 | 9 | 7 | 15 | 15 | 8 | 5 | 4 | 5 | 7 | 13 | 12 | 14 | 17 | 13 | 10 | 9 | 6 | 4 | 4 | 4 | 4 | 3 | 4 | 5 | 6 | 8 |
| 16 | 16 | 8 | 5 | 5 | 12 | 14 | 18 | 6 | 11 | 18 | 25 | 24 | 28 | 13 | 10 | 10 | 8 | 28 | 8 | 7 | 7 | 8 | 18 | 21 | 9 | 13 |
| 17 | 11 | 21 | 31 | 12 | 31 | 10 | 20 | (CM) | 11 | 9 | 9 | 10 | 11 | 13 | 15 | 15 | 10 | 10 | 11 | 13 | 7 | 4 | 6 | 7 | 13 | 31 |
| 18 | 16 | 19 | 14 | 5 | 3 | 6 | (CM) | (CM) | (CM) | 6 | 31 | 26 | 28 | 25 | 19 | 18 | 7 | 6 | 5 | 1 | 0 | 0 | 2 | 2 | 7 | 19 |
| 19 | 6 | 6 | 12 | (WR) | (WR) | (WR) | (WR) | (WR) | (WR) | 15 | 15 | 14 | 10 | 9 | 10 | 9 | 8 | 8 | 12 | 12 | 10 | 14 | 12 | 10 | 12 | 31 |
| 20 | 10 | 11 | 14 | 13 | 15 | 10 | 16 | 20 | 13 | 15 | 10 | 12 | 11 | 11 | 10 | 9 | 8 | 14 | 8 | 10 | 14 | 13 | 10 | 11 | 20 | 10 |
| 21 | 16 | 13 | 20 | 18 | 3 | 11 | 12 | 9 | 11 | 10 | 10 | 9 | 12 | 14 | 14 | 9 | 6 | 6 | 5 | 5 | 7 | 7 | 9 | 6 | 14 | 14 |
| 22 | 8 | 5 | 5 | 11 | 8 | 7 | 7 | 7 | 6 | 13 | 12 | 12 | 12 | 14 | 13 | 10 | 8 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 11 | 23 |
| 23 | 5 | 7 | 7 | 5 | 6 | 13 | 13 | 23 | 15 | 22 | 17 | 13 | 13 | 13 | 13 | 10 | 8 | 6 | 7 | 25 | 21 | 8 | 22 | 15 | 13 | 25 |
| 24 | 7 | 6 | 8 | 7 | 9 | 13 | 16 | 14 | 15 | 12 | 12 | 10 | 10 | 11 | 11 | 7 | 17 | 11 | 5 | 6 | 13 | 6 | 13 | 8 | 14 | 33 |
| 25 | 14 | 11 | 10 | 30 | 28 | 11 | 14 | 13 | 25 | 11 | 20 | 33 | 16 | 9 | 7 | 7 | 10 | 11 | 7 | 9 | 7 | 6 | 6 | 7 | 9 | 9 |
| 26 | 6 | 7 | 8 | 9 | 7 | 7 | 7 | 8 | 7 | 8 | 9 | 8 | 8 | 7 | 7 | 7 | 7 | 7 | 9 | 7 | 6 | 4 | 1 | 0 | 2 | 6 |
| 27 | 6 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 6 | 7 | 10 | 9 | 9 | 9 | 9 | 9 | 9 | 6 | 3 | 6 | 4 | 1 | 0 | 2 | 6 |
| 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 25 | 36 | 12 | 11 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 8 | 8 | 7 | 8 | 36 |
| 29 | 9 | 8 | 9 | 9 | 9 | 9 | 14 | 6 | 19 | 10 | 10 | 9 | 12 | 10 | 10 | 9 | 8 | 8 | 8 | 7 | 5 | 8 | 3 | 6 | 9 | 19 |
| 30 | 8 | 11 | 12 | 3 | 0 | 0 | 10 | 8 | 32 | 13 | 12 | 19 | 14 | 10 | 13 | 29 | 8 | 18 | 18 | 14 | 13 | 16 | 35 | 24 | 14 | 35 |
| AV | 9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 13 | 14 | 15 | 17 | 15 | 13 | 12 | 11 | 9 | 8 | 9 | 9 | 8 | 9 | 9 | 8 | 11 | 41 |
| PK | 32 | 21 | 31 | 30 | 41 | 28 | 30 | 27 | 34 | 31 | 31 | 36 | 34 | 24 | 24 | 29 | 28 | 18 | 25 | 21 | 19 | 25 | 35 | 24 | | |

SIGMA HORIZ. WIND DIR. # 30M
DEGREES

CB-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|----|------|----|------|----|----|------|------|------|----|----|----|----|----|----|----|----|----|----|------|----|----|----|----|-----|------|
| 1 | 8 | 12 | 34 | 9 | 12 | 12 | 4 | 8 | 18 | 11 | 12 | 12 | 12 | 13 | 11 | 12 | 6 | 3 | 4 | 21 | 10 | 10 | 14 | 16 | 12 | 34 |
| 2 | 16 | 24 | 14 | 14 | 13 | 12 | 12 | 7 | 14 | 21 | 8 | 12 | 24 | 10 | 15 | 8 | 5 | 12 | 10 | 14 | 9 | 8 | 17 | 12 | 13 | 24 |
| 3 | 12 | 11 | 31 | (CM) | 9 | 5 | 13 | 14 | 17 | 28 | 22 | 28 | 13 | 22 | 17 | 4 | 4 | 4 | 14 | (CM) | 9 | 7 | 10 | 12 | 13 | 31 |
| 4 | 12 | (CM) | 12 | 13 | 8 | 12 | 27 | 14 | 12 | 15 | 16 | 26 | 11 | 12 | 11 | 8 | 6 | 3 | 16 | 18 | 11 | 4 | 4 | 11 | 12 | 27 |
| 5 | 11 | 22 | 6 | 11 | 19 | 40 | 38 | 24 | 10 | 12 | 8 | 10 | 11 | 12 | 10 | 8 | 8 | 11 | 19 | 32 | 23 | 5 | 5 | 9 | 15 | 40 |
| 6 | 17 | 18 | 11 | 13 | 18 | 13 | 12 | 17 | 7 | 21 | 25 | 23 | 29 | 31 | 20 | 9 | 6 | 5 | 5 | 8 | 23 | 8 | 8 | 11 | 15 | 31 |
| 7 | 13 | 18 | 19 | 38 | 42 | 49 | 9 | 9 | 8 | 11 | 11 | 9 | 10 | 11 | 11 | 11 | 8 | 7 | 7 | 9 | 5 | 8 | 8 | 14 | 49 | 9 |
| 8 | 7 | 8 | 8 | 9 | 5 | 6 | 8 | 8 | 9 | 6 | 15 | 5 | 6 | 3 | 0 | 5 | 7 | 6 | 2 | 4 | 7 | 0 | 0 | 0 | 5 | 9 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 10 | 9 | 15 | 14 | 16 | 22 | 10 | 8 | 6 | 4 | 4 | 6 | 19 | 10 | 6 | 7 | 7 | 22 |
| 10 | 10 | 5 | 7 | 5 | 3 | 6 | 6 | 4 | 5 | 19 | 20 | 13 | 18 | 28 | 11 | 18 | 13 | 7 | 14 | 7 | 14 | 15 | 15 | 9 | 11 | 28 |
| 11 | 22 | 30 | 15 | 17 | 14 | 22 | 30 | 27 | 34 | 23 | 16 | 21 | 11 | 10 | 9 | 8 | 17 | 11 | 7 | 13 | 18 | 14 | 23 | 9 | 12 | 17 |
| 12 | 8 | 17 | 22 | 12 | 7 | 10 | 14 | 8 | 16 | 13 | 16 | 34 | 26 | 19 | 9 | 14 | 11 | 7 | 7 | 4 | 7 | 22 | 12 | 9 | 6 | 13 |
| 13 | 8 | 8 | 8 | 7 | 7 | 7 | 7 | 10 | 9 | 19 | 38 | 32 | 17 | 37 | 13 | 15 | 10 | 11 | 8 | 4 | 7 | 22 | 12 | 25 | 10 | 14 |
| 14 | 16 | 10 | 9 | 9 | 7 | 6 | 6 | 6 | 9 | 9 | 12 | 11 | 10 | 16 | 13 | 8 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 8 |
| 15 | 15 | 10 | 12 | 8 | 7 | 5 | 4 | 6 | 9 | 12 | 11 | 10 | 16 | 13 | 8 | 8 | 9 | 6 | 5 | 5 | 5 | 18 | 31 | 12 | 14 | 31 |
| 16 | 9 | 11 | 15 | 24 | 30 | 12 | 8 | 15 | 16 | 21 | 23 | 23 | 10 | 12 | 9 | 7 | 20 | 7 | 5 | 5 | 5 | 6 | 7 | 10 | 20 | 21 |
| 17 | 13 | 35 | 28 | 14 | 40 | 9 | 5 | (CM) | 9 | 8 | 9 | 10 | 12 | 15 | 14 | 11 | 11 | 8 | 10 | 11 | 9 | 5 | 6 | 14 | 15 | 40 |
| 18 | 17 | 26 | 22 | 9 | 9 | 5 | (CM) | (CM) | 0 | 6 | 9 | 8 | 8 | 6 | 6 | 7 | 7 | 6 | 6 | 6 | 7 | 7 | 8 | 9 | 26 | 27 |
| 19 | 8 | 7 | 6 | 7 | 6 | 11 | 9 | 16 | 15 | 32 | 27 | 33 | 25 | 20 | 18 | 11 | 8 | 8 | 9 | 8 | 8 | 12 | 10 | 11 | 10 | 32 |
| 20 | 10 | 11 | 11 | 16 | 13 | 13 | 9 | 14 | 21 | 11 | 14 | 9 | 8 | 9 | 9 | 8 | 9 | 8 | 8 | 12 | 12 | 11 | 14 | 11 | 10 | 21 |
| 21 | 16 | 14 | 17 | 24 | 11 | 18 | 10 | 11 | 11 | 9 | 11 | 11 | 10 | 11 | 10 | 9 | 8 | 14 | 8 | 6 | 10 | 14 | 12 | 11 | 10 | 21 |
| 22 | 9 | 6 | 4 | 11 | 6 | 6 | 6 | 6 | 6 | 10 | 11 | 11 | 10 | 12 | 14 | 9 | 5 | 8 | 6 | 5 | 3 | 15 | 32 | 15 | 9 | 32 |
| 23 | 9 | 7 | 9 | 7 | 5 | 14 | 9 | (CM) | (CM) | 17 | 20 | 20 | 17 | 12 | 12 | 10 | 6 | 5 | 5 | 6 | 6 | 5 | 4 | 7 | 10 | 20 |
| 24 | 7 | 7 | 7 | 6 | 9 | 13 | 15 | 14 | 14 | 11 | 12 | 9 | 10 | 10 | 12 | 10 | 8 | 17 | 26 | 18 | 8 | 22 | 14 | 12 | 26 | 27 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| AV | 11 | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 14 | 14 | 15 | 16 | 15 | 13 | 11 | 10 | 8 | 8 | 10 | 10 | 10 | 9 | 12 | 10 | 12 | 49 |
| PK | 22 | 35 | 34 | 38 | 42 | 49 | 38 | 39 | 34 | 38 | 32 | 37 | 37 | 31 | 22 | 29 | 20 | 20 | 26 | 32 | 23 | 23 | 39 | 40 | | |

SIGMA HORIZ. WIND DIR. @ 60M
DEGREES

CB-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | AVE | PEAK |
|-----|----------------------------|----|------|----|----|------|------|------|------|------|------|------|------|----|----|----|----|----|----|----|----|----|----|----|-----|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1 | 0 | 17 | 15 | 6 | 8 | 9 | 2 | 6 | 14 | 10 | 12 | 10 | 11 | 11 | 10 | 10 | 4 | 3 | 3 | 8 | 6 | 4 | 6 | 4 | 8 | 17 |
| 2 | 3 | 3 | 6 | 6 | 7 | 6 | 8 | 4 | 11 | 10 | 8 | 10 | 22 | 9 | 13 | 7 | 4 | 8 | 6 | 17 | 7 | 12 | 6 | 5 | 8 | 22 |
| 3 | 3 | 3 | 4 | 1 | 3 | 7 | 8 | 0 | 2 | 11 | 22 | 20 | 29 | 12 | 18 | 14 | 4 | 4 | 3 | 3 | 5 | 6 | 4 | 4 | 8 | 29 |
| 4 | 2 | 0 | 4 | 4 | 3 | 3 | 7 | 5 | 5 | 10 | 14 | 25 | 10 | 11 | 10 | 7 | 4 | 3 | 4 | 8 | 8 | 8 | 4 | 4 | 7 | 25 |
| 5 | 25 | 27 | 4 | 7 | 24 | 36 | 26 | 16 | 6 | 12 | 7 | 9 | 10 | 12 | 8 | 7 | 7 | 11 | 8 | 5 | 8 | 4 | 4 | 3 | 12 | 36 |
| 6 | 5 | 1 | 3 | 2 | 1 | 2 | 10 | 7 | 13 | 25 | 21 | 29 | 27 | 15 | 7 | 4 | 4 | 4 | 3 | 5 | 11 | 6 | 5 | 7 | 9 | 29 |
| 7 | 5 | 9 | 8 | 53 | 28 | 27 | 8 | 7 | 8 | 7 | 11 | 10 | 7 | 9 | 10 | 9 | 7 | 5 | 6 | 7 | 5 | 6 | 7 | 6 | 11 | 53 |
| 8 | 6 | 7 | 7 | 7 | 4 | 7 | 8 | 7 | 8 | 6 | 5 | 6 | 6 | 6 | 6 | 8 | 8 | 7 | 9 | 12 | 8 | 6 | 9 | 10 | 7 | 12 |
| 9 | 6 | 6 | 6 | 6 | 0 | 0 | 7 | 1 | 4 | 5 | 17 | 19 | 14 | 19 | 9 | 7 | 4 | 3 | 5 | 10 | 9 | 8 | 6 | 8 | 19 | 19 |
| 10 | 6 | 4 | 10 | 6 | 4 | 8 | 6 | 3 | 12 | 17 | 10 | 4 | 7 | 10 | 16 | 11 | 6 | 13 | 8 | 9 | 10 | 9 | 8 | 6 | 8 | 19 |
| 11 | 28 | 35 | 12 | 18 | 13 | 28 | 37 | 30 | 30 | 21 | 14 | 20 | 10 | 10 | 8 | 6 | 7 | 10 | 11 | 18 | 12 | 16 | 9 | 9 | 17 | 37 |
| 12 | 5 | 4 | 4 | 13 | 7 | 7 | 8 | 4 | 8 | 11 | 20 | 24 | 26 | 16 | 7 | 7 | 7 | 5 | 4 | 3 | 4 | 5 | 7 | 5 | 9 | 26 |
| 13 | 7 | 6 | 7 | 6 | 7 | 6 | 8 | 7 | 17 | 35 | 23 | 17 | 29 | 11 | 13 | 8 | 8 | 5 | 3 | 5 | 15 | 10 | 13 | 9 | 11 | 35 |
| 14 | 13 | 9 | 8 | 7 | 6 | 5 | 6 | 5 | 7 | 7 | 9 | 11 | 11 | 15 | 14 | 11 | 6 | 3 | 11 | 4 | 4 | 5 | 6 | 3 | 8 | 15 |
| 15 | 7 | 5 | 6 | 5 | 6 | 5 | 4 | 7 | 11 | 9 | 10 | 15 | 11 | 7 | 6 | 2 | 6 | 6 | 5 | 5 | 5 | 5 | 4 | 5 | 6 | 15 |
| 16 | 6 | 21 | 7 | 26 | 8 | 19 | 9 | 16 | 12 | 16 | 21 | 22 | 9 | 9 | 8 | 6 | 18 | 5 | 5 | 4 | 4 | 10 | 32 | 10 | 13 | 32 |
| 17 | 12 | 26 | 24 | 12 | 33 | 7 | 33 | 34 | 7 | 6 | 7 | 8 | 9 | 11 | 14 | 11 | 18 | 6 | 9 | 11 | 7 | 5 | 4 | 12 | 13 | 34 |
| 18 | 11 | 21 | (CM) | 7 | 10 | 5 | (CM) | (CM) | (CM) | (CM) | (CM) | (CM) | (CM) | 16 | 6 | 7 | 6 | 6 | 5 | 4 | 6 | 6 | 7 | 7 | 18 | 21 |
| 19 | 9 | 6 | 6 | 6 | 6 | 5 | 6 | 4 | 4 | 26 | 24 | 24 | 21 | 19 | 17 | 10 | 7 | 7 | 8 | 7 | 6 | 7 | 10 | 10 | 26 | |
| 20 | 9 | 10 | 11 | 14 | 11 | 12 | 8 | 13 | 16 | 10 | 14 | 13 | 8 | 9 | 8 | 6 | 6 | 7 | 11 | 12 | 9 | 11 | 10 | 10 | 16 | |
| 21 | 14 | 12 | 22 | 20 | 9 | 12 | 12 | 8 | 8 | 9 | 7 | 10 | 10 | 9 | 8 | 6 | 10 | 8 | 13 | 8 | 13 | 8 | 8 | 10 | 22 | |
| 22 | 9 | 5 | 3 | 10 | 5 | 4 | 4 | 5 | 4 | 7 | 10 | 9 | 8 | 12 | 12 | 7 | 4 | 6 | 3 | 2 | 3 | 2 | 6 | 1 | 6 | 12 |
| 23 | 5 | 2 | 1 | 2 | 0 | (CM) | (CM) | (CM) | 11 | 19 | 18 | 15 | 11 | 10 | 8 | 4 | 4 | 2 | 3 | 3 | 4 | 3 | 2 | 4 | 4 | 19 |
| 24 | 4 | 5 | 6 | 4 | 8 | 11 | 13 | 11 | 10 | 11 | 10 | 8 | 9 | 10 | 8 | 9 | 14 | 21 | 14 | 7 | 19 | 15 | 11 | 10 | 21 | |
| 25 | 13 | 9 | 9 | 43 | 27 | 9 | 11 | 10 | 34 | 16 | 23 | 27 | 13 | 8 | 5 | 6 | 8 | 13 | 9 | 12 | 4 | 4 | 8 | 5 | 14 | 43 |
| 26 | 4 | 4 | 6 | 7 | 6 | 5 | 5 | 6 | 5 | 6 | 7 | 6 | 6 | 5 | 5 | 6 | 6 | 5 | 7 | 5 | 4 | 4 | 4 | 3 | 5 | 7 |
| 27 | 3 | 4 | 6 | 6 | 3 | 4 | 4 | 4 | 5 | 4 | 6 | 7 | 8 | 8 | 6 | 7 | 8 | 4 | 3 | 5 | 3 | 2 | 0 | 6 | 5 | 8 |
| 28 | 3 | 3 | 1 | 1 | 1 | 1 | 0 | 1 | 4 | 7 | 13 | 20 | 10 | 8 | 6 | 7 | 6 | 5 | 6 | 5 | 3 | 2 | 0 | 6 | 5 | 20 |
| 29 | 5 | 6 | 7 | 6 | 7 | 7 | 13 | 40 | 11 | 8 | 8 | 7 | 9 | 8 | 9 | 6 | 5 | 4 | 3 | 3 | 2 | 4 | 4 | 5 | 8 | 40 |
| 30 | 3 | 4 | 3 | 1 | 4 | 6 | 6 | 4 | 16 | 10 | 11 | 17 | 11 | 9 | 12 | 30 | 7 | 21 | 12 | 20 | 23 | 15 | 35 | 39 | 13 | 39 |
| AV | 8 | 9 | 8 | 10 | 9 | 9 | 10 | 9 | 10 | 11 | 14 | 14 | 13 | 11 | 10 | 9 | 7 | 6 | 7 | 8 | 8 | 8 | 8 | 8 | 9 | 53 |
| PK | 28 | 35 | 24 | 53 | 33 | 36 | 37 | 40 | 34 | 35 | 25 | 27 | 29 | 27 | 18 | 30 | 18 | 21 | 21 | 20 | 23 | 19 | 35 | 39 | | |

TEMPERATURE @ 10M
DEGREE C

CB-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|---|
| 1 | 5 | 6 | 6 | 6 | 7 | 6 | 4 | 4 | 7 | 13 | 14 | 16 | 17 | 16 | 17 | 14 | 12 | 10 | 9 | 8 | 7 | 7 | 6 | 6 | 6 | 9 | 17 | |
| 2 | 6 | 6 | 6 | 4 | 4 | 4 | 5 | 6 | 7 | 9 | 10 | 12 | 14 | 14 | 13 | 11 | 10 | 8 | 9 | 8 | 6 | 4 | 3 | 3 | 3 | 7 | 14 | |
| 3 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 2 | 6 | 7 | 13 | 15 | 17 | 17 | 19 | 17 | 13 | 11 | 8 | 7 | 6 | 4 | 3 | 3 | 3 | 8 | 17 | |
| 4 | 3 | 3 | 6 | 7 | 6 | 6 | 6 | 4 | 7 | 12 | 15 | 18 | 19 | 19 | 20 | 18 | 16 | 13 | 9 | 8 | 8 | 8 | 8 | 6 | 4 | 10 | 20 | |
| 5 | 6 | 6 | 6 | 7 | 6 | 6 | 6 | 4 | 9 | 13 | 14 | 13 | 13 | 13 | 13 | 15 | 14 | 11 | 9 | 8 | 7 | 7 | 5 | 4 | 9 | 15 | | |
| 6 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 7 | 11 | 14 | 16 | 17 | 18 | 18 | 16 | 13 | 10 | 9 | 8 | 7 | 7 | 7 | 7 | 7 | 8 | 18 | |
| 7 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 8 | 9 | 11 | 14 | 16 | 17 | 18 | 16 | 14 | 12 | 12 | 11 | 11 | 11 | 11 | 7 | 7 | 10 | 18 | | |
| 8 | 6 | 6 | 5 | 2 | 0 | -1 | -1 | -2 | -2 | -2 | -1 | -1 | -1 | -2 | -3 | -3 | 0 | -3 | -4 | -4 | -5 | -6 | -6 | -6 | -2 | 6 | 6 | |
| 9 | -6 | -7 | -7 | -3 | -3 | -4 | -4 | -3 | 0 | 4 | 7 | 9 | 11 | 8 | 6 | 6 | 4 | 3 | 1 | 4 | 4 | 1 | 1 | 0 | 2 | 3 | 5 | |
| 10 | -3 | -1 | -2 | 3 | 4 | 4 | 4 | 4 | 5 | 8 | 9 | 8 | 7 | 9 | 8 | 7 | 6 | 6 | 5 | 4 | 3 | 3 | 3 | 3 | 3 | 5 | 9 | |
| 11 | 1 | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 6 | 7 | 7 | 8 | 7 | 6 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 4 | 4 | 8 | |
| 12 | 3 | 4 | 4 | 5 | 5 | 6 | 2 | 1 | 2 | 6 | 7 | 8 | 9 | 8 | 7 | 9 | 6 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 8 | |
| 13 | 4 | 4 | 5 | 5 | 5 | 6 | 2 | 1 | 2 | 6 | 7 | 8 | 9 | 8 | 7 | 9 | 6 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 8 | |
| 14 | 0 | 1 | -1 | -1 | -2 | -3 | -4 | -4 | -2 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 2 | -1 | -2 | -2 | -3 | -4 | -5 | -5 | -1 | 4 | 9 | |
| 15 | -6 | -6 | -6 | -6 | -4 | -4 | -3 | -3 | -2 | 4 | 9 | 10 | 10 | 8 | 9 | 5 | 7 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 0 | 10 | |
| 16 | -1 | 0 | -1 | -2 | -1 | -1 | -1 | 1 | 5 | 6 | 7 | 7 | 9 | 10 | 8 | 7 | 6 | 6 | 6 | 4 | 4 | 1 | 0 | 0 | 4 | 10 | 10 | |
| 17 | 3 | 2 | 2 | 2 | 1 | 1 | 3 | 3 | 5 | 7 | 7 | 7 | 9 | 10 | 8 | 7 | 6 | 6 | 6 | 4 | 3 | 3 | 2 | 2 | 4 | 10 | 10 | |
| 18 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -3 | -4 | -5 | -5 | -1 | 4 | 9 | |
| 19 | -3 | -4 | -4 | -4 | -5 | -6 | -7 | -7 | -4 | -1 | -2 | 3 | 2 | 2 | 3 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 3 | 3 |
| 20 | -2 | -3 | -3 | -3 | -3 | -3 | -3 | -2 | -2 | -1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | -1 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | 2 | 3 |
| 21 | 1 | 1 | -1 | -1 | -1 | -1 | -2 | -2 | -9 | -7 | -6 | -3 | -3 | -3 | -2 | -2 | 0 | -3 | -4 | -5 | -6 | -6 | -5 | -4 | -2 | 1 | 0 | 3 |
| 22 | -6 | -6 | -8 | -9 | -9 | -9 | -10 | -11 | -11 | -9 | -7 | -6 | -3 | -3 | -3 | -4 | -7 | -10 | -11 | -12 | -13 | -14 | -15 | -14 | -9 | -3 | 1 | |
| 23 | -14 | -14 | -14 | -15 | -15 | -16 | -17 | -17 | -15 | -12 | -2 | -1 | -2 | -1 | -2 | -4 | -7 | -9 | -10 | -9 | -9 | -9 | -10 | -9 | -9 | -3 | 1 | |
| 24 | -8 | -8 | -8 | -7 | -7 | -7 | -7 | -6 | -4 | -3 | -2 | -1 | 2 | 1 | 1 | 1 | -1 | -1 | -2 | -3 | -4 | -4 | -3 | -3 | -3 | 1 | 1 | |
| 25 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | -1 | -2 | -3 | -4 | -4 | -4 | -4 | 0 | 3 | 4 | |
| 26 | -4 | -4 | -6 | -7 | -9 | -9 | -10 | -10 | -9 | -9 | -8 | -8 | -8 | -9 | -9 | -7 | -8 | -8 | -9 | -9 | -9 | -9 | -9 | -9 | -9 | -4 | 3 | |
| 27 | -12 | -12 | -11 | -11 | -11 | -11 | -11 | -11 | -9 | -8 | -7 | -4 | -5 | -4 | -6 | -7 | -8 | -8 | -9 | -9 | -9 | -9 | -9 | -9 | -9 | -4 | 1 | |
| 28 | -9 | -9 | -9 | -9 | -9 | -9 | -9 | -8 | -7 | -3 | 1 | 1 | 1 | 0 | -2 | -3 | -4 | -6 | -6 | -6 | -6 | -6 | -7 | -6 | -5 | 1 | 1 | |
| 29 | -7 | -7 | -6 | -6 | -7 | -7 | -7 | -7 | -6 | -6 | -3 | -3 | -1 | -3 | -3 | -4 | -6 | -7 | -8 | -9 | -11 | -11 | -11 | -9 | -6 | -1 | 2 | |
| 30 | -9 | -9 | -9 | -9 | -9 | -8 | -8 | -7 | -6 | -2 | -1 | 2 | 1 | 1 | 1 | 0 | -1 | -1 | -2 | -2 | -2 | -1 | -1 | -2 | -3 | -3 | 2 | |
| AV | -1 | -1 | -2 | -2 | -2 | -2 | -2 | 0 | 2 | 4 | 5 | 6 | 6 | 6 | 5 | 4 | 3 | 1 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | 1 | 20 | |
| PK | 6 | 6 | 7 | 6 | 7 | 6 | 7 | 8 | 9 | 13 | 15 | 18 | 19 | 20 | 19 | 18 | 16 | 13 | 12 | 11 | 11 | 11 | 8 | 7 | 7 | 20 | | |
| NP | -14 | -14 | -15 | -15 | -16 | -17 | -17 | -15 | -12 | -9 | -8 | -8 | -9 | -9 | -9 | -9 | -11 | -11 | -11 | -12 | -13 | -14 | -15 | -14 | -14 | 20 | | |

MONTHLY MINIMUM = -17

TEMPERATURE @ 30M
DEGREE C

CB-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1 | 6 | 7 | 7 | 7 | 7 | 4 | 6 | 5 | 7 | 12 | 12 | 11 | 13 | 13 | 13 | 11 | 11 | 10 | 9 | 8 | 8 | 8 | 7 | 8 | 9 | 13 |
| 2 | 7 | 7 | 5 | 5 | 6 | 4 | 4 | 5 | 3 | 4 | 9 | 11 | 12 | 13 | 12 | 8 | 9 | 10 | 6 | 6 | 7 | 5 | 4 | 3 | 7 | 13 |
| 3 | 4 | 3 | 3 | 2 | 2 | 2 | 4 | 3 | 6 | 9 | 8 | 11 | 13 | 13 | 12 | 4 | 14 | 8 | 8 | 5 | 5 | 3 | 4 | 3 | 5 | 13 |
| 4 | 3 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 9 | 11 | 11 | 12 | 16 | 17 | 16 | 14 | 13 | 9 | 9 | 8 | 7 | -2 | 7 | 8 | 17 |
| 5 | 7 | 6 | 6 | 6 | 6 | 7 | 6 | 6 | 8 | 9 | 11 | 12 | 12 | 13 | 13 | 12 | 12 | 11 | 8 | 1 | 6 | 7 | 3 | 4 | 8 | 13 |
| 6 | 4 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 6 | 11 | 12 | 13 | 14 | 15 | 14 | 13 | 1 | 9 | 4 | -2 | 3 | 5 | 1 | 4 | 5 | 15 |
| 7 | 5 | 3 | 2 | 7 | 5 | 4 | 6 | 6 | 6 | 9 | 13 | 13 | 14 | 15 | 14 | 15 | 14 | 11 | 9 | 11 | 11 | 11 | 7 | 7 | 9 | 15 |
| 8 | 7 | 7 | 5 | 2 | 0 | -1 | 4 | 2 | -2 | -2 | -2 | -1 | -1 | -2 | -2 | -3 | -4 | -4 | -5 | -5 | -5 | -6 | -6 | -2 | 7 | 7 |
| 9 | -6 | -2 | -7 | -7 | -8 | -9 | -8 | -7 | -5 | -2 | 4 | 2 | 4 | 2 | 6 | 3 | 0 | -3 | -3 | -3 | -3 | -3 | -2 | -3 | 4 | 4 |
| 10 | -2 | -2 | -2 | -2 | -2 | -3 | -2 | -1 | 1 | 4 | 8 | 8 | 9 | 9 | 6 | 6 | 4 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 4 | 6 |
| 11 | 3 | 3 | 3 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 7 | 7 | 8 | 7 | 7 | 8 | 7 | 7 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 7 |
| 12 | 3 | 3 | 3 | 3 | 3 | 6 | 6 | 6 | 2 | 2 | 3 | 6 | 7 | 6 | 6 | 8 | 6 | 4 | 4 | 3 | 3 | 3 | 2 | 4 | 4 | 7 |
| 13 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 2 | 1 | 3 | 5 | 7 | 8 | 6 | 7 | 7 | 6 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 7 |
| 14 | 1 | 1 | 0 | -1 | -2 | -3 | -3 | -3 | -2 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 0 | -2 | -2 | -2 | -2 | -3 | -4 | 0 | 3 |
| 15 | -4 | 1 | -4 | -4 | -3 | -3 | -3 | -3 | -2 | 2 | 3 | 4 | 6 | 6 | 6 | 5 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 1 | 6 |
| 16 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 6 | 7 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 8 |
| 17 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 5 | 4 | 7 | 7 | 8 | 9 | 8 | 7 | 7 | 6 | 6 | 4 | 1 | 1 | 1 | 1 | 1 | 4 |
| 18 | 1 | 2 | 2 | 2 | 1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -3 | -3 | -3 | -3 | -3 | -3 | -1 | 2 |
| 19 | -3 | -4 | -4 | -4 | -3 | -3 | -2 | -2 | -2 | -1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | 1 |
| 20 | -2 | -3 | -3 | -3 | -3 | -3 | -2 | -2 | -2 | -1 | 1 | 1 | 1 | 0 | -2 | -2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 2 |
| 21 | 2 | 1 | 0 | -1 | -1 | -1 | -2 | -2 | -2 | -1 | -1 | -6 | -4 | -4 | -6 | -3 | -4 | -4 | -4 | -4 | -5 | -5 | -4 | -5 | -4 | 2 |
| 22 | -6 | -6 | -7 | -8 | -9 | -10 | -10 | -11 | -11 | -9 | -8 | -6 | -4 | -4 | -6 | -7 | -9 | -8 | -9 | -11 | -12 | -12 | -14 | -14 | -9 | -2 |
| 23 | -13 | -13 | -14 | -14 | -14 | -15 | -15 | -15 | -11 | -7 | -4 | -3 | -2 | -2 | -1 | -6 | -7 | -8 | -9 | -8 | -8 | 0 | 0 | 1 | -3 | 1 |
| 24 | -8 | -8 | -7 | -7 | -7 | -7 | -6 | -6 | -4 | -3 | -2 | -2 | 2 | 2 | 1 | -1 | -1 | -2 | -3 | -3 | -4 | -3 | -4 | -4 | 0 | 3 |
| 25 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 1 | -9 | -11 | -11 | -11 | -12 | -12 | -12 | -12 | -12 | -9 | -4 |
| 26 | -4 | -4 | -6 | -7 | -9 | -9 | -10 | -10 | -9 | -9 | -8 | -8 | -6 | -6 | -7 | -9 | -8 | -9 | -9 | -9 | -9 | -9 | -9 | -9 | -6 | 1 |
| 27 | -12 | -12 | -12 | -11 | -11 | -11 | -11 | -11 | -9 | -7 | -7 | -7 | -6 | -6 | -7 | -3 | -4 | -5 | -6 | -6 | -6 | -6 | -6 | -6 | -6 | -2 |
| 28 | -9 | -9 | -9 | -9 | -8 | -8 | -8 | -8 | -7 | -3 | 0 | 1 | -2 | -2 | -3 | -3 | -4 | -6 | -6 | -6 | -9 | -9 | -10 | -9 | -6 | 1 |
| 29 | -6 | -6 | -6 | -6 | -6 | -7 | -7 | -7 | -6 | -6 | -4 | -3 | -2 | -4 | -4 | -4 | -6 | -7 | -7 | -8 | -9 | -9 | -10 | -9 | -6 | -2 |
| 30 | -8 | -8 | -8 | -9 | -8 | -7 | -7 | -7 | -6 | -2 | -2 | 1 | 0 | 1 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -3 | 1 |
| AV | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -1 | 1 | 3 | 4 | 4 | 4 | 3 | 3 | 2 | 1 | 0 | -1 | -1 | -1 | -1 | -1 | 0 | 17 |
| PK | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 8 | 12 | 13 | 13 | 14 | 16 | 17 | 16 | 14 | 13 | 9 | 11 | 11 | 11 | 7 | 8 | | |
| MN | -13 | -13 | -14 | -14 | -14 | -15 | -16 | -15 | -11 | -9 | -8 | -8 | -9 | -9 | -9 | -9 | -11 | -11 | -11 | -12 | -12 | -12 | -14 | -14 | | |

MONTHLY MINIMUM = -16

TEMPERATURE @ 60M
DEGREE C

CB-TRACT
TRAILER AA23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|
| 1 | 7 | 7 | 8 | 7 | 8 | 6 | 6 | 6 | 8 | 12 | 13 | 13 | 15 | 14 | 15 | 13 | 12 | 11 | 10 | 9 | 8 | 8 | 8 | 8 | 8 | 10 | 15 |
| 2 | 7 | 8 | 4 | 4 | 4 | 3 | 3 | 7 | 9 | 13 | 14 | 17 | 18 | 18 | 18 | 15 | 13 | 11 | 9 | 8 | 7 | 6 | 4 | 4 | 4 | 8 | 13 |
| 3 | 4 | 4 | 4 | 4 | 5 | 3 | 6 | 7 | 9 | 13 | 13 | 12 | 13 | 13 | 14 | 15 | 13 | 11 | 12 | 10 | 9 | 9 | 10 | 5 | 4 | 8 | 16 |
| 4 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 8 | 11 | 13 | 14 | 15 | 16 | 16 | 14 | 13 | 11 | 10 | 8 | 8 | 8 | 8 | 8 | 9 | 10 | 14 |
| 5 | 6 | 4 | 3 | 3 | 7 | 7 | 7 | 8 | 9 | 11 | 13 | 14 | 15 | 16 | 15 | 15 | 14 | 13 | 12 | 11 | 11 | 8 | 7 | 7 | 11 | 16 | |
| 6 | 8 | 6 | 6 | 5 | 2 | -1 | -1 | -2 | -2 | -2 | -2 | -1 | -1 | -1 | -2 | -4 | -4 | -5 | -5 | -5 | -6 | -6 | -6 | -6 | -2 | 6 | |
| 7 | 9 | -2 | -1 | -2 | -1 | -2 | -1 | -1 | -2 | 4 | 7 | 8 | 10 | 9 | 7 | 2 | 4 | 3 | 3 | 2 | 2 | 3 | -2 | -2 | -2 | 10 | |
| 8 | 10 | -1 | 3 | 3 | 4 | 5 | 5 | 4 | 5 | 8 | 9 | 8 | 7 | 8 | 8 | 7 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 9 | |
| 9 | 11 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 5 | 6 | 7 | 6 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 6 | |
| 10 | 12 | 3 | 3 | 3 | 6 | 6 | 2 | 1 | -2 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 2 | -1 | 2 | -2 | -2 | -2 | -3 | -4 | -1 | 3 | |
| 11 | 13 | 4 | 1 | -1 | -1 | -3 | -2 | -3 | -1 | -1 | 3 | 4 | 7 | 7 | 6 | 4 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 5 | |
| 12 | 14 | -4 | -4 | -4 | -2 | -3 | -2 | -2 | -2 | -1 | 4 | 9 | 8 | 9 | 8 | 7 | 6 | 5 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 7 | |
| 13 | 15 | 2 | 1 | 1 | 2 | 2 | 3 | 3 | 5 | 6 | 7 | 7 | 8 | 9 | 8 | 7 | 6 | 6 | 6 | 4 | 4 | 3 | 3 | 3 | 4 | 9 | |
| 14 | 16 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 5 | 6 | 8 | 9 | 8 | 9 | 8 | 7 | 6 | 5 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 9 | |
| 15 | 17 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 5 | 6 | 7 | 7 | 8 | 9 | 8 | 7 | 6 | 6 | 6 | 4 | 4 | 3 | 3 | 3 | 4 | 9 | |
| 16 | 18 | 1 | 2 | 2 | 1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -2 | -3 | -3 | -3 | -3 | -1 | -1 | 2 | |
| 17 | 19 | -4 | -4 | -4 | -5 | -6 | -6 | -6 | -4 | -2 | -1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 4 | |
| 18 | 20 | -3 | -3 | -3 | -3 | -3 | -3 | -2 | -2 | -1 | -2 | -1 | 2 | -1 | -1 | -2 | -4 | -4 | -4 | -4 | -5 | -5 | -5 | -2 | -1 | 1 | |
| 19 | 21 | 1 | 1 | -1 | -1 | 0 | -2 | -2 | -2 | -1 | -2 | -1 | -1 | -1 | -4 | -6 | -7 | -8 | -8 | -8 | -8 | -9 | -8 | -8 | -9 | 4 | |
| 20 | 22 | -6 | -6 | -7 | -9 | -9 | -11 | -11 | -11 | -10 | -8 | -7 | -4 | -4 | -6 | -7 | -9 | -10 | -11 | -12 | -12 | -12 | -14 | -14 | -9 | -4 | |
| 21 | 23 | -13 | -13 | -14 | -15 | -15 | -16 | -14 | -10 | -7 | -4 | -3 | -3 | -3 | -2 | -1 | -2 | -1 | -1 | -1 | -2 | -3 | -3 | -3 | -4 | 0 | 2 |
| 22 | 24 | -8 | -8 | -8 | -7 | -7 | -6 | -6 | -4 | -3 | -3 | -2 | -2 | 1 | 1 | 1 | 1 | -1 | -3 | -3 | -3 | -3 | -3 | -4 | 0 | 2 | |
| 23 | 25 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -9 | -9 | -8 | -9 | -9 | -9 | -9 | -11 | -11 | -12 | -12 | -12 | -12 | -12 | -12 | -10 | 4 | |
| 24 | 26 | -4 | -4 | -6 | -8 | -9 | -10 | -10 | -11 | -10 | -9 | -7 | -6 | -5 | -5 | -7 | -8 | -8 | -9 | -9 | -9 | -9 | -9 | -9 | -5 | 1 | |
| 25 | 27 | -12 | -12 | -12 | -11 | -11 | -11 | -11 | -10 | -9 | -7 | -6 | -6 | -5 | -2 | -4 | -4 | -6 | -6 | -6 | -6 | -6 | -6 | -6 | -5 | 1 | |
| 26 | 28 | -9 | -9 | -9 | -9 | -8 | -8 | -8 | -6 | -3 | -1 | -1 | -1 | -1 | -2 | -4 | -6 | -6 | -6 | -6 | -6 | -6 | -6 | -6 | -5 | 1 | |
| 27 | 29 | -7 | -6 | -6 | -6 | -7 | -7 | -7 | -5 | -2 | -2 | 1 | 0 | 1 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -3 | 1 | |
| 28 | 30 | -8 | -8 | -8 | -8 | -7 | -7 | -7 | -5 | -2 | -2 | 1 | 0 | 1 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -3 | 1 | |

MONTHLY MINIMUM = -16

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| AV | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -1 | 0 | 2 | 3 | 4 | 5 | 5 | 4 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| PK | 8 | 8 | 8 | 8 | 8 | 7 | 8 | 8 | 9 | 13 | 14 | 17 | 18 | 18 | 18 | 17 | 16 | 13 | 12 | 11 | 11 | 11 | 10 | 8 | |
| MIN | -13 | -14 | -14 | -14 | -15 | -15 | -16 | -14 | -11 | -9 | -9 | -8 | -9 | -9 | -9 | -9 | -11 | -11 | -12 | -12 | -12 | -12 | -14 | -14 | |

BAROMETRIC PRESSURE
MILLIBARS

CR-TRACT
TRAILER AB23
NOV 1983
CATHERAL BLUFFS SHALE OIL CO.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE | PEAK | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|
| 1 | 796 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 796 | 797 | |
| 2 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 793 | 795 | 794 | 793 | 792 | 793 | 793 | 794 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | 794 | 794 | 795 | 797 |
| 3 | 794 | 794 | 794 | 794 | 795 | 795 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 798 | 793 | 794 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | 794 | 795 | 797 | 800 |
| 4 | 799 | 799 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 797 | 797 | 796 | 796 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 796 | 795 | 797 | 799 | |
| 5 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 794 | 794 | 794 | 794 | 793 | 793 | 794 | 794 | 795 | 795 | 795 | 796 | 796 | 797 | 795 | 797 | |
| 6 | 797 | 797 | 797 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 796 | 798 | |
| 7 | 795 | 795 | 794 | 794 | 793 | 793 | 793 | 793 | 793 | 792 | 792 | 791 | 790 | 789 | 789 | 789 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 791 | 795 | |
| 8 | 788 | 787 | 788 | 788 | 788 | 788 | 788 | 789 | 789 | 789 | 789 | 790 | 789 | 789 | 790 | 791 | 792 | 793 | 794 | 794 | 795 | 796 | 796 | 796 | 796 | 799 | |
| 9 | 797 | 797 | 798 | 798 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 799 | |
| 10 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 795 | 796 | 798 | |
| 11 | 795 | 794 | 794 | 793 | 793 | 792 | 792 | 792 | 791 | 791 | 789 | 787 | 787 | 787 | 787 | 787 | 788 | 788 | 789 | 790 | 790 | 790 | 791 | 791 | 791 | 795 | |
| 12 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 792 | 792 | 792 | 792 | 792 | 791 | 790 | 790 | 790 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 792 | |
| 13 | 789 | 788 | 788 | 787 | 787 | 787 | 787 | 787 | 787 | 789 | 789 | 789 | 788 | 788 | 788 | 787 | 787 | 786 | 786 | 786 | 786 | 786 | 784 | 784 | 788 | 790 | |
| 14 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 792 | 793 | 793 | 793 | 794 | 795 | 795 | 795 | 796 | 796 | 797 | 798 | 798 | 798 | 798 | 799 | 793 | 799 | |
| 15 | 800 | 799 | 799 | 799 | 800 | 799 | 800 | 800 | 800 | 800 | 800 | 800 | 799 | 799 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 798 | 799 | 800 | |
| 16 | 797 | 797 | 796 | 796 | 796 | 796 | 796 | 795 | 795 | 795 | 794 | 794 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 794 | 794 | 794 | 794 | 797 | | |
| 17 | 793 | 793 | 793 | 792 | 792 | 792 | 792 | 791 | 791 | 790 | 790 | 789 | 789 | 789 | 788 | 787 | 787 | 788 | 788 | 788 | 789 | 788 | 787 | 787 | 787 | 793 | |
| 18 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 786 | 786 | 786 | 785 | 785 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 785 | 785 | 785 | 786 | 789 | |
| 19 | 789 | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 791 | 791 | 790 | 789 | 789 | 789 | 788 | 788 | 788 | 787 | 787 | 787 | 787 | 786 | 785 | 785 | 789 | 791 | |
| 20 | 784 | 784 | 784 | 783 | 783 | 783 | 782 | 782 | 782 | 782 | 781 | 780 | 779 | 779 | 779 | 779 | 778 | 778 | 778 | 778 | 778 | 777 | 777 | 778 | 780 | 784 | |
| 21 | 777 | 777 | 777 | 776 | 776 | 775 | 776 | 777 | 777 | 777 | 777 | 777 | 777 | 777 | 777 | 778 | 779 | 779 | 780 | 780 | 780 | 781 | 781 | 782 | 780 | 784 | |
| 22 | 782 | 783 | 783 | 783 | 784 | 784 | 785 | 785 | 785 | 786 | 786 | 786 | 786 | 785 | 784 | 786 | 786 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 785 | 787 | |
| 23 | 787 | 787 | 787 | 787 | 787 | 787 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 789 | 789 | 790 | 790 | 790 | 791 | 791 | 791 | 792 | 788 | 792 | |
| 24 | 792 | 792 | 791 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 791 | 791 | 790 | 790 | 790 | 788 | 788 | 788 | 788 | 791 | 792 | |
| 25 | 787 | 787 | 786 | 784 | 784 | 782 | 782 | 781 | 781 | 780 | 779 | 779 | 778 | 778 | 778 | 779 | 780 | 780 | 780 | 780 | 780 | 780 | 781 | 781 | 787 | 792 | |
| 26 | 781 | 781 | 782 | 783 | 784 | 785 | 785 | 786 | 787 | 788 | 788 | 788 | 788 | 788 | 789 | 790 | 791 | 792 | 792 | 792 | 793 | 793 | 793 | 793 | 793 | 793 | |
| 27 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 793 | 793 | 793 | 792 | 792 | 792 | 792 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | |
| 28 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 791 | 791 | 790 | 789 | 789 | 789 | 789 | 788 | 788 | 788 | 788 | 787 | 787 | 786 | 790 | 792 | |
| 29 | 786 | 786 | 786 | 785 | 785 | 785 | 785 | 786 | 786 | 787 | 787 | 787 | 787 | 787 | 787 | 788 | 789 | 789 | 789 | 790 | 790 | 790 | 791 | 791 | 787 | 791 | |
| 30 | 791 | 791 | 791 | 791 | 791 | 791 | 792 | 792 | 792 | 792 | 793 | 793 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 793 | |
| AV | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | |
| PK | 800 | 799 | 799 | 799 | 800 | 799 | 800 | 800 | 800 | 800 | 800 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 799 | 800 | 800 | |
| NK | 777 | 777 | 777 | 776 | 776 | 775 | 776 | 777 | 777 | 777 | 777 | 777 | 777 | 778 | 778 | 778 | 778 | 778 | 778 | 778 | 778 | 778 | 778 | 778 | 778 | 778 | |

MONTHLY MINIMUM = 775

PRECIPITATION
CM*100

CB-TRACT
TRAILER AB23
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | TL PEAK |
|-----|----------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------|
| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 9 | 1 | 1 | | | | | | 1 | | | | 1 | 1 | 3 | 1 | 3 | 1 | 3 | 1 | 2 | 1 | | 1 | 14 | 3 |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| 14 | | | | | | | | | | 1 | | | 1 | | | | | 2 | | | | | | | 2 |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 17 | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | 1 |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 22 | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 |
| 23 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 26 | 1 | | | | | | | 1 | | 2 | | | | | | 1 | | | | | 1 | 1 | 1 | 6 | 2 |
| 27 | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | () |
| TL | 2 | 1 | 1 | | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 2 | 4 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 37 |
| PK | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 1 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 |

PRECIPITATION
CM*100

CR TRACT
MRI AD28
NOV 1983
CATHEDRAL BLUFFS SHALE OIL CO.

| DAY | HOUR (LOCAL STANDARD TIME) | | | | | | | | | | | | | | | | | | | | | | | | TOTAL |
|-----|----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 5 | 38 | 25 | 20 | 13 | 15 | 10 | 5 | 5 | 5 | 10 | 18 | 3 | | 5 | | | | | | | | 15 | 10 | |
| 9 | | | | | | | | | 3 | 20 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TL | 13 | 46 | 38 | 30 | 28 | 30 | 25 | 15 | 10 | 43 | 10 | 20 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 3 | 15 | 10 | 23 | 30 | 411 |

STABILITY CLASS USING DT/DZ
DT 60-10M
WS 10M

CB-TRACT
TRAILER AA23
NOV 1983
OCCIDENTAL OIL SHALE, INC.

HOUR (LOCAL STANDARD TIME)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AVE |
|-----|-----|---|-----|---|---|---|---|---|-----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|-----|
| 1 | F | F | () | F | E | F | F | F | E | B | B | B | B | B | B | B | D | E | F | F | F | F | F | F | D |
| 2 | () | F | () | F | E | F | F | F | F | E | D | A | A | A | A | C | B | D | () | F | F | F | F | F | F |
| 3 | F | F | F | F | F | F | F | F | () | E | A | A | A | B | B | B | C | B | () | F | F | F | F | F | F |
| 4 | F | F | F | F | F | F | F | F | () | B | A | C | B | A | A | B | B | B | () | F | F | F | F | F | F |
| 5 | F | F | () | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 6 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 7 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 8 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 9 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 10 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 11 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 12 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 13 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 14 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 15 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 16 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 17 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 18 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 19 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 20 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 21 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 22 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 23 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 24 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 25 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 26 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 27 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 28 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 29 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| 30 | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |
| AVE | F | F | F | F | F | F | F | F | () | B | A | B | A | A | B | B | B | B | () | F | F | F | F | F | F |

TOTAL OCCURRENCES: A= 39 B= 59 C= 28 D=239 E=231 F=113 HOURS MISSING= 12

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

NITRIC OXIDE (NO)

PERIOD(11/01/83 TO 11/30/83)

TRAILER AB23

| CONCENTRATION
MAX
UG/M*3 | WIND DIRECTION | | | | | | | | | | | | | | | | TOTAL | | | | | | | | | | | | | |
|--------------------------------|----------------|----|----|----|-----|----|----|----|-----|-----|----|----|-----|----|----|----|-------|-----|---|---|-----|---|----|---|-----|---|------|---|-------|---|
| | N | | NE | | ENE | | E | | ESE | | SE | | SSE | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL | |
| | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | | |
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LT 5. : | 18 | 18 | 8 | 13 | 19 | 34 | 47 | 37 | 68 | 167 | 90 | 24 | 27 | 31 | 39 | 54 | 12 | 706 | | | | | | | | | | | | |
| TOTAL : | 18 | 18 | 8 | 13 | 19 | 34 | 47 | 37 | 68 | 167 | 90 | 24 | 27 | 31 | 39 | 54 | 12 | 706 | | | | | | | | | | | | |

MEAN
CONC.

0 = NO OBSERVATIONS

OXIDES OF NITROGEN (NOX)

PERIOD(11/01/83 TO 11/30/83)

CATHEDRAL BLUFFS SHALE OIL

| CONCENTRATION
MAX | N | NNE | NE | ENE | E | ESE | SE | SSE | WIND DIRECTION | | | | | | | | W | WNW | NW | NNW | CALM | TOTAL |
|----------------------|----|-----|----|-----|----|-----|----|-----|----------------|-----|----|-----|----|----|----|----|----|-----|-----|-----|------|-------|
| | | | | | | | | | S | SSW | SW | WSW | 7 | 7 | 7 | 9 | | | | | | |
| UG/4*3 | 9 | 7 | 5 | 7 | 5 | 5 | 7 | 5 | 7 | 5 | 7 | 7 | 7 | 9 | 7 | 7 | 7 | 9 | 5 | | | |
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 5. - 10. : | 7 | 4 | 2 | 7 | 7 | 8 | 11 | 7 | 15 | 53 | 27 | 8 | 7 | 10 | 14 | 23 | 5 | 5 | 215 | | | |
| LT 5. : | 11 | 14 | 6 | 6 | 12 | 26 | 36 | 30 | 53 | 114 | 63 | 16 | 20 | 21 | 25 | 31 | 7 | 7 | 491 | | | |
| TOTAL : | 18 | 18 | 8 | 13 | 19 | 34 | 47 | 37 | 68 | 167 | 90 | 24 | 27 | 31 | 39 | 54 | 12 | 12 | 706 | | | |
| MEAN
CONC. | 4 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

NITROGEN DIOXIDE (NO2)

PERIOD(11/01/83 TO 11/30/83)

CATHEDRAL BLUFFS SHALE OIL

TRAILER AB23

| CONCENTRATION
MAX
UG/M*3 | N | | | NE | | | E | | | ESE | | | SE | | | SSE | | | WIND DIRECTION
SSW | | | WSW | | | W | | | WNW | | | NW | | | NNW | | | CALM | | | TOTAL | | |
|--------------------------------|----|----|---|----|----|----|----|----|----|-----|----|----|----|----|----|-----|----|-----|-----------------------|---|---|-----|---|---|---|---|---|-----|---|---|----|---|---|-----|---|---|------|---|---|-------|---|--|
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | | | |
| GT 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 60. - 65. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 55. - 60. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 50. - 55. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 45. - 50. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 40. - 45. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 35. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 30. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 25. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 15. - 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 10. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 5. - 10. : | 4 | 4 | 1 | 3 | 4 | 0 | 6 | 2 | 6 | 25 | 11 | 3 | 5 | 4 | 8 | 17 | 4 | 107 | | | | | | | | | | | | | | | | | | | | | | | | |
| LT 5. : | 14 | 14 | 7 | 10 | 15 | 34 | 41 | 35 | 62 | 142 | 79 | 21 | 22 | 27 | 31 | 37 | 8 | 599 | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL : | 18 | 18 | 8 | 13 | 19 | 34 | 47 | 37 | 68 | 167 | 90 | 24 | 27 | 31 | 39 | 54 | 12 | 706 | | | | | | | | | | | | | | | | | | | | | | | | |
| MEAN
CONC. | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

CARBON MONOXIDE (CO)

PERIOD(11/01/83 TO 11/30/83)

TRAILER AB23

WIND DIRECTION

| CONCENTRATION
MAX
UG/M ³ | N | | NE | | E | | SE | | SSE | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL |
|---|----|----|----|----|----|----|----|----|-----|-----|-----|----|----|----|-----|----|----|-----|-----|----|----|----|-----|----|------|---|-------|
| | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | | |
| GT 1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1200. -1300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1100. -1200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1000. -1100. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 900. -1000. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 800. - 900. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 700. - 800. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 600. - 700. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 500. - 600. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 400. - 500. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 300. - 400. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 200. - 300. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 100. - 200. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| LT 100. : | 18 | 19 | 9 | 14 | 19 | 35 | 47 | 37 | 68 | 166 | 88 | 24 | 27 | 30 | 40 | 53 | 12 | 706 | | | | | | | | | |
| TOTAL : | 18 | 19 | 9 | 14 | 19 | 35 | 47 | 37 | 68 | 166 | 88 | 24 | 27 | 30 | 40 | 53 | 12 | 706 | | | | | | | | | |
| MEAN
CONC. | 32 | 48 | 33 | 39 | 34 | 36 | 29 | 32 | 32 | 31 | 35 | 35 | 36 | 33 | 30 | 29 | 40 | 33 | | | | | | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

OZONE (03)

CATHEDRAL BLUFFS SHALE OIL

TRAILER AB23 PERIOD(11/01/83 TO 11/30/83)

| CONCENTRATION
MAX
UG/M ³ *3 | N | | NE | | E | | ESE | | SE | | SSE | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | CALM | | TOTAL | |
|--|----|----|----|----|----|----|-----|----|-----|-----|-----|----|-----|----|----|----|-----|------|----|-----|-----|----|----|----|-----|----|------|---|-------|--|
| | 80 | 70 | 72 | 76 | 72 | 76 | 72 | 74 | 74 | 74 | 80 | 82 | 88 | 88 | 88 | 80 | 76 | 78 | 78 | 76 | 78 | 78 | 76 | 76 | 76 | 68 | | | | |
| GT 140. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 130. - 140. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 120. - 130. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 110. - 120. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 100. - 110. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 90. - 100. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 80. - 90. : | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 9 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | |
| 70. - 80. : | 4 | 1 | 1 | 3 | 1 | 3 | 1 | 3 | 13 | 5 | 9 | 17 | 18 | 10 | 6 | 6 | 8 | 5 | 0 | 110 | | | | | | | | | 110 | |
| 60. - 70. : | 8 | 6 | 5 | 15 | 15 | 15 | 21 | 24 | 43 | 89 | 37 | 5 | 13 | 10 | 20 | 31 | 7 | 354 | | | | | | | | | | | 354 | |
| 50. - 60. : | 1 | 12 | 3 | 4 | 3 | 10 | 12 | 6 | 9 | 46 | 19 | 4 | 7 | 9 | 3 | 13 | 5 | 166 | | | | | | | | | | | 166 | |
| 40. - 50. : | 4 | 0 | 0 | 2 | 0 | 7 | 1 | 0 | 5 | 6 | 7 | 4 | 1 | 6 | 9 | 5 | 0 | 57 | | | | | | | | | | | 57 | |
| 30. - 40. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | 0 | 0 | |
| 20. - 30. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | 0 | 0 | |
| LT 20. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | 0 | 0 | |
| TOTAL : | 18 | 19 | 9 | 14 | 19 | 35 | 47 | 37 | 68 | 167 | 89 | 24 | 27 | 31 | 40 | 54 | 12 | 710 | | | | | | | | | | | 710 | |
| PERCENT | 3. | 3. | 1. | 2. | 3. | 5. | 7. | 5. | 10. | 24. | 13. | 3. | 4. | 4. | 6. | 8. | 2. | 100. | | | | | | | | | | | | |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL RLUFFS SHALE OIL

SULFUR DIOXIDE (SO2)

PERIOD(11/01/83 TO 11/30/83)

TRAILER AB23

| CONCENTRATION
MAX
UG/M ³ | WIND DIRECTION | | | | | | | | | | | | | | | |
|---|----------------|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW |
| 0 | 2 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 5 | 0 | 2 | 2 | 2 |
| GT 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. - 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. - 12. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. - 9. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7. - 8. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. - 7. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 6. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 4. - 5. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. - 4. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. - 3. : | 0 | 3 | 0 | 0 | 2 | 2 | 1 | 0 | 2 | 3 | 14 | 1 | 0 | 2 | 1 | 2 |
| 1. - 2. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LT 1. : | 17 | 16 | 9 | 14 | 17 | 33 | 46 | 37 | 66 | 164 | 76 | 22 | 26 | 30 | 39 | 50 |
| TOTAL : | 17 | 19 | 9 | 14 | 19 | 35 | 47 | 37 | 68 | 167 | 90 | 24 | 26 | 32 | 40 | 52 |
| MEAN
CONC. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0 = NO OBSERVATIONS

NUMBER OF ONE HOUR SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

HYDROGEN SULFIDE (H₂S)

PERIOD(11/01/83 TO 11/30/83)

TRAILER AR23

WIND DIRECTION

S SSW SW

WSW W

WNW NW

NNW CALM

TOTAL

CONCENTRATION
MAX
UG/M³

| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
|---------------|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|------|-------|
| GT 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. - 13. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. - 12. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9. - 10. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. - 9. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7. - 8. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. - 7. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 6. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. - 5. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. - 4. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. - 3. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1. - 2. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LT 1. : | 18 | 19 | 9 | 13 | 19 | 34 | 39 | 36 | 65 | 162 | 85 | 23 | 27 | 29 | 36 | 53 | 12 | 679 |
| TOTAL : | 18 | 19 | 9 | 14 | 19 | 35 | 47 | 37 | 68 | 169 | 90 | 24 | 27 | 30 | 40 | 54 | 12 | 712 |
| MEAN
CONC. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

10 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(11/01/83 TO 11/30/83)

WIND DIRECTION

| WIND SPEED
MAX
METERS/SEC | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
|---------------------------------|----|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|-----|-------|
| 4 | 3 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 8 | 9 | 10 | 4 | 6 | 4 | 6 | 8 | 0 | |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 6 | 0 | 0 | 0 | 0 | 2 | 0 | 17 |
| 5. - 8. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 28 | 8 | 0 | 3 | 0 | 2 | 11 | 0 | 62 |
| 3. - 5. : | 8 | 1 | 0 | 0 | 0 | 0 | 3 | 5 | 17 | 69 | 33 | 9 | 3 | 8 | 10 | 22 | 0 | 188 |
| 1. - 3. : | 3 | 9 | 3 | 5 | 12 | 22 | 32 | 28 | 30 | 39 | 25 | 9 | 10 | 19 | 23 | 15 | 0 | 284 |
| LT 1. : | 7 | 9 | 6 | 9 | 7 | 13 | 12 | 4 | 10 | 26 | 18 | 6 | 11 | 5 | 5 | 4 | 0 | 152 |
| TOTAL : | 18 | 19 | 9 | 14 | 19 | 35 | 47 | 37 | 68 | 170 | 90 | 24 | 27 | 32 | 40 | 54 | 0 | 703 |
| PERCENT | 3. | 3. | 1. | 2. | 3. | 5. | 7. | 5. | 10. | 24. | 13. | 3. | 4. | 5. | 6. | 8. | 0. | 100. |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

30 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(11/01/83 TO 11/30/83)

WIND DIRECTION

| WIND SPEED
MAX
METERS/SEC | N | | NNE | | NE | | ENE | | E | | ESE | | SE | | SSE | | S | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | VAR | | TOTAL | | |
|---------------------------------|----|----|-----|----|----|----|-----|----|-----|-----|-----|----|----|----|-----|----|-----|------|-----|--|----|--|-----|--|---|--|-----|--|----|--|-----|--|-----|--|-------|--|--|
| | 4 | 2 | 1 | 2 | 4 | 3 | 5 | 5 | 11 | 14 | 15 | 7 | 9 | 6 | 11 | 12 | 0 | | | | | | | | | | | | | | | | | | | | |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | 4 | 0 | 0 | 0 | 1 | 1 | 0 : | 17 | | | | | | | | | | | | | | | | | | | |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 21 | 5 | 0 | 2 | 0 | 5 | 4 | 0 : | 48 | | | | | | | | | | | | | | | | | | | |
| 5. - 8. : | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 16 | 62 | 17 | 8 | 2 | 6 | 3 | 14 | 0 : | 133 | | | | | | | | | | | | | | | | | | | |
| 3. - 5. : | 8 | 0 | 0 | 0 | 3 | 4 | 11 | 17 | 30 | 29 | 12 | 3 | 4 | 20 | 21 | 19 | 0 : | 181 | | | | | | | | | | | | | | | | | | | |
| 1. - 3. : | 12 | 2 | 3 | 6 | 8 | 15 | 32 | 27 | 26 | 16 | 14 | 12 | 8 | 14 | 11 | 12 | 0 : | 218 | | | | | | | | | | | | | | | | | | | |
| LT 1. : | 7 | 5 | 3 | 8 | 3 | 12 | 8 | 11 | 17 | 12 | 8 | 3 | 6 | 4 | 0 | 6 | 0 : | 113 | | | | | | | | | | | | | | | | | | | |
| TOTAL : | 27 | 7 | 6 | 14 | 14 | 31 | 52 | 59 | 101 | 150 | 60 | 26 | 22 | 44 | 41 | 56 | 0 | 710 | | | | | | | | | | | | | | | | | | | |
| PERCENT | 4. | 1. | 1. | 2. | 2. | 4. | 7. | 8. | 14. | 21. | 8. | 4. | 3. | 6. | 6. | 8. | 0. | 100. | | | | | | | | | | | | | | | | | | | |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

6.0 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(11/01/83 TO 11/30/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|----|-----|-----|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| 5 | 2 | 2 | 2 | 2 | 4 | 4 | 5 | 7 | 13 | 16 | 16 | 9 | 10 | 6 | 9 | 12 | 0 | |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 21 | 3 | 0 | 0 | 0 | 0 | 2 | 0 : | 29 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 31 | 6 | 2 | 5 | 0 | 4 | 7 | 0 : | 75 |
| 5. - 8. : | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 21 | 66 | 15 | 1 | 3 | 8 | 6 | 19 | 0 : | 149 |
| 3. - 5. : | 4 | 0 | 0 | 0 | 2 | 1 | 15 | 26 | 29 | 22 | 14 | 9 | 8 | 13 | 23 | 15 | 0 : | 181 |
| 1. - 3. : | 5 | 3 | 4 | 6 | 3 | 9 | 19 | 36 | 28 | 21 | 10 | 9 | 12 | 13 | 12 | 9 | 0 : | 199 |
| LT 1. : | 5 | 0 | 4 | 3 | 4 | 2 | 2 | 6 | 14 | 7 | 6 | 5 | 5 | 5 | 2 | 4 | 0 : | 74 |
| TOTAL : | 17 | 3 | 8 | 9 | 9 | 12 | 37 | 74 | 115 | 168 | 54 | 26 | 33 | 39 | 47 | 56 | 0 | 707 |
| PERCENT | 2. | 0. | 1. | 1. | 1. | 2. | 5. | 10. | 16. | 24. | 8. | 4. | 5. | 6. | 7. | 8. | 0. | 100. |

0 = NO OBSERVATIONS

FIVE MAXIMUM SLIDING AVERAGE
UG/M**3

C-B TRACT
SITE AB23
NOV 1983
CATHEDRAL

BLUFFS SHALE OIL CO.

| COMPONENT | AVG. TIME | RANK | DAY | HOUR (REG) | VALUE |
|-----------|-----------|------|-----|------------|-------|
| S02 | 3 HR | 1 | 3 | 13 | 3.5 |
| | | 2 | 5 | 13 | 2.6 |
| | | 3 | 5 | 11 | 2.6 |
| | | 4 | 5 | 15 | 2.6 |
| | | 5 | 22 | 24 | 2.6 |
| S02 | 24 HR | 1 | 2 | 21 | 1.0 |
| | | 2 | 4 | 18 | 0.8 |
| | | 3 | 22 | 11 | 0.5 |
| | | 4 | 1 | 17 | 0.4 |
| | | 5 | 10 | 21 | 0.4 |
| C0 | 1 HR | 1 | 1 | 1 | 60.0 |
| | | 2 | 1 | 2 | 60.0 |
| | | 3 | 1 | 3 | 60.0 |
| | | 4 | 1 | 4 | 60.0 |
| | | 5 | 1 | 5 | 60.0 |
| C0 | 8 HR | 1 | 1 | 1 | 60.0 |
| | | 2 | 1 | 9 | 60.0 |
| | | 3 | 1 | 17 | 60.0 |
| | | 4 | 1 | 17 | 60.0 |
| | | 5 | 3 | 17 | 60.0 |
| 03 | 1 HR | 1 | 21 | 15 | 88.3 |
| | | 2 | 1 | 16 | 88.3 |
| | | 3 | 21 | 14 | 86.3 |
| | | 4 | 21 | 17 | 86.3 |
| | | 5 | 16 | 16 | 84.4 |
| PART | 24 HR | 1 | 2 | 1 | 18.5 |
| | | 2 | 6 | 1 | 9.3 |
| | | 3 | 30 | 1 | 3.4 |
| | | 4 | 14 | 1 | 3.0 |
| | | 5 | 26 | 1 | 2.2 |

DATA ACQUISITION INSTRUMENT EFFICIENCY
CATHEDRAL BLUFFS SHALE OIL COMPANY
A.Q. TRAILER AB23

NOVEMBER 1983

GASEOUS
PARAMETERS

NOX: 100 %

NO: 100

NO2: 100

O3: 100

CO: 100

SO2: 100

H2S: 100

PARTICULATES: 100 %

METEOROLOGICAL
PARAMETERS

WIND SPEED

10 M: 100 %

30 M: 100

60 M: 100

WIND DIRECTION

10 M: 99

30 M: 100

60 M: 100

SIGMA HORIZONTAL

WIND DIRECTION

10 M: 99

30 M: 100

60 M: 100

TEMPERATURE

10 M: 100

30 M: 100

60 M: 100

DELTA TEMPERATURE: 100

RELATIVE HUMIDITY: 100

SOLAR RADIATION: 100

BAROMETRIC PRESSURE: 100

PRECIPITATION: 100

1.3.8 Date Corrections

Corrected data during this monitoring period include 1982 visual range data. Data reported previously was converted from photographic density readings to visual range incorrectly.

Please replace the incorrect tables with these corrected data.

MEAN DAILY VISUAL RANGE BY VIEW
1982

| DATE | VIEW | MILE |
|---------|------|------|
| 03MAY82 | 1 | 87 |
| 03MAY82 | 2 | 85 |
| 03MAY82 | 3 | 85 |
| 03MAY82 | 4 | 92 |
| 07MAY82 | 1 | 90 |
| 07MAY82 | 2 | 90 |
| 07MAY82 | 3 | 91 |
| 07MAY82 | 4 | 122 |
| 11MAY82 | 1 | 87 |
| 11MAY82 | 2 | 60 |
| 11MAY82 | 3 | 74 |
| 11MAY82 | 4 | 85 |
| 19MAY82 | 1 | 55 |
| 19MAY82 | 2 | 70 |
| 19MAY82 | 3 | 70 |
| 19MAY82 | 4 | 76 |
| 23MAY82 | 1 | 72 |
| 23MAY82 | 2 | 73 |
| 23MAY82 | 3 | 91 |
| 23MAY82 | 4 | 95 |
| 27MAY82 | 1 | 84 |
| 27MAY82 | 2 | 82 |
| 27MAY82 | 3 | 89 |
| 27MAY82 | 4 | 106 |
| 04JUN82 | 1 | 89 |
| 04JUN82 | 2 | 85 |
| 04JUN82 | 3 | 100 |
| 04JUN82 | 4 | 106 |
| 08JUN82 | 1 | 80 |
| 08JUN82 | 2 | 69 |
| 08JUN82 | 3 | 85 |
| 08JUN82 | 4 | 91 |
| 12JUN82 | 1 | 118 |
| 12JUN82 | 2 | 117 |
| 12JUN82 | 3 | 124 |
| 12JUN82 | 4 | 131 |
| 16JUN82 | 1 | 112 |
| 16JUN82 | 2 | 105 |
| 16JUN82 | 3 | 109 |
| 16JUN82 | 4 | 119 |
| 04SEP82 | 1 | 87 |
| 04SEP82 | 2 | 77 |
| 04SEP82 | 3 | 81 |
| 04SEP82 | 4 | 92 |
| 16SEP82 | 1 | 112 |
| 16SEP82 | 2 | 94 |
| 16SEP82 | 3 | 109 |
| 16SEP82 | 4 | 120 |
| 20SEP82 | 1 | 86 |
| 20SEP82 | 2 | 75 |
| 20SEP82 | 3 | 84 |
| 20SEP82 | 4 | 93 |
| 24SEP82 | 1 | 115 |
| 24SEP82 | 2 | 103 |
| 24SEP82 | 3 | 120 |

MEAN DAILY VISUAL RANGE BY VIEW
1962

| DATE | VIEW | MILE |
|---------|------|------|
| 24SEP82 | 4 | 139 |
| 28SEP82 | 1 | 75 |
| 29SEP82 | 2 | 85 |
| 29SEP82 | 3 | 84 |
| 29SEP82 | 4 | 73 |
| 02OCT82 | 1 | 89 |
| 02OCT82 | 2 | 74 |
| 02OCT82 | 3 | 89 |
| 02OCT82 | 4 | 113 |
| 06OCT82 | 1 | 104 |
| 06OCT82 | 2 | 87 |
| 06OCT82 | 3 | 95 |
| 06OCT82 | 4 | 117 |
| 10OCT82 | 1 | 104 |
| 10OCT82 | 2 | 92 |
| 10OCT82 | 3 | 92 |
| 10OCT82 | 4 | 114 |
| 14OCT82 | 1 | 98 |
| 14OCT82 | 2 | 77 |
| 14OCT82 | 3 | 85 |
| 14OCT82 | 4 | 132 |
| 18OCT82 | 1 | 98 |
| 18OCT82 | 2 | 82 |
| 18OCT82 | 3 | 93 |
| 18OCT82 | 4 | 117 |
| 22OCT82 | 1 | 104 |
| 22OCT82 | 2 | 90 |
| 22OCT82 | 3 | 108 |
| 22OCT82 | 4 | 142 |

MEAN SEASONAL VISUAL RANGE BY VIEW
1982

| SEASON | YEAR | VIEW | MILE |
|--------|------|------|------|
| SPRING | 82 | 1 | 88 |
| SPRING | 82 | 2 | 86 |
| SPRING | 82 | 3 | 91 |
| SPRING | 82 | 4 | 103 |
| FALL | 82 | 1 | 98 |
| FALL | 82 | 2 | 85 |
| FALL | 82 | 3 | 95 |
| FALL | 82 | 4 | 115 |

Supplemental Data Report

10/1/2018

Supplemental Data Report

1.3.9 Supplemental Data

This section contains quarterly frequency tables of wind speed by direction, and quarterly annual particulate concentration frequency tables for Station AB23.

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| | Quarterly Particulate Concentration Frequency Distribution | |
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Table 1.3.10-1

NUMBER OF DAILY SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

PARTICULATES(TSP)

TRAILER AB23 PERIOD(12/01/82 TO 2/28/83)

| CONCENTRATION
MAX
UG/M**3 | WIND DIRECTION | | | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|-----|---|-----|----|-----|---|-----|----|-----|---|-----|----|-----|------|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 6 | 2 | 0 | 0 | 2 | 5 | 4 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | |
|-------------|----|----|----|----|----|----|-----|-----|-----|-----|-----|----|----|-----|----|----|----|------|
| GT 76. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 76. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| LT 5. : | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 3 | 2 | 1 | 1 | 0 | 2 | 0 | 0 | 17 |
| TOTAL : | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 6 | 3 | 2 | 1 | 1 | 1 | 2 | 0 | 0 | 20 |
| PERCENT | 0. | 0. | 0. | 0. | 0. | 0. | 10. | 10. | 30. | 15. | 10. | 5. | 5. | 10. | 0. | 0. | 0. | 100. |

0 = NO OBSERVATIONS

Table 1.3.10-2

NUMBER OF DAILY SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

PARTICULATES(TSP)

TRAILER AB23 PERIOD(3/01/83 TO 5/31/83)

WIND DIRECTION

| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
|---------------------------------|----|-----|----|-----|----|-----|----|-----|-----|-----|----|-----|-----|-----|----|-----|------|-------|
| CONCENTRATION
MAX
UG/M**3 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 10 | 19 | 0 | 27 | 6 | 14 | 8 | 0 | 23 | 0 | |
| GT 76. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 76. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 15. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 |
| 5. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 9 |
| LT 5. : | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 5 |
| TOTAL : | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 1 | 1 | 4 | 3 | 1 | 1 | 0 | 18 |
| PERCENT | 0. | 6. | 0. | 0. | 0. | 0. | 0. | 17. | 17. | 0. | 6. | 6. | 22. | 17. | 6. | 6. | 0. | 100. |

0 = NO OBSERVATIONS

NUMBER OF DAILY SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

[illegible]

0 = NO OBSERVATIONS

NUMBER OF DAILY SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

PARTICULATES(TSP)

TRAILER AB23 PERIOD(9/01/83 TO 11/30/83)

| CONCENTRATION
MAX
UG/M*3 | WIND DIRECTION | | | | | | | | | | | | | | | | | |
|--------------------------------|----------------|-----|----|-----|----|-----|----|-----|-----|-----|----|-----|-----|-----|----|-----|------|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 22 | 15 | 0 | 46 | 22 | 24 | 0 | 2 | 0 | |
| GT 76. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 76. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 25. - 35. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 15. - 25. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 6 |
| 5. - 15. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 8 |
| LT 5. : | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 6 |
| TOTAL : | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 2 | 0 | 4 | 5 | 1 | 0 | 1 | 0 | 22 |
| PERCENT | 5. | 0. | 0. | 0. | 0. | 0. | 0. | 18. | 18. | 9. | 0. | 18. | 23. | 5. | 0. | 5. | 0. | 100. |

0 = NO OBSERVATIONS

Table 1.3.10-5

NUMBER OF DAILY SAMPLES BY CONCENTRATION AND WIND DIRECTION AT 10 METERS

CATHEDRAL BLUFFS SHALE OIL

PARTICULATES (TSP)

TRAILER AB23 PERIOD(12/01/82 TO 11/30/83)

| CONCENTRATION
MAX
UG/M ³ | WIND DIRECTION | | | | | | | | | | | | | | | |
|---|----------------|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|----|-----|----|------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW |
| | 4 | 17 | 0 | 0 | 25 | 18 | 27 | 34 | 21 | 27 | 46 | 22 | 24 | 4 | 23 | 0 |
| GT 76. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35. - 76. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 25. - 35. : | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 7 |
| 15. - 25. : | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 8 | 3 | 1 | 2 | 1 | 2 | 0 | 1 | 21 |
| 5. - 15. : | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 8 | 1 | 1 | 1 | 5 | 4 | 0 | 0 | 25 |
| LT 5. : | 1 | 1 | 0 | 0 | 0 | 2 | 5 | 4 | 3 | 2 | 1 | 4 | 1 | 3 | 1 | 28 |
| TOTAL : | 1 | 1 | 1 | 0 | 2 | 4 | 11 | 22 | 7 | 5 | 6 | 10 | 7 | 3 | 2 | 82 |
| PERCENT | 1. | 1. | 1. | 0. | 2. | 5. | 13. | 27. | 9. | 6. | 7. | 12. | 9. | 4. | 2. | 100. |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 10 METER LEVEL | | | | | | | | | | STATION AA23 PERIOD(12/01/82 TO 2/28/83) | | | | | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | | | | | | | |
|---------------------------------|----|----|----|----|----|-----|-----|-----|-----|--|----------------|----|----|-----|-----|-----|-----|------|-----|---|-----|---|----|----------------------------|-----|---|-----|----|-------|--|--|--|--|
| WIND SPEED
MAX
METERS/SEC | N | | NE | | E | | SE | | SSE | | WIND DIRECTION | | | | | | WSW | | W | | WNW | | NW | | NNW | | VAR | | TOTAL | | | | |
| | 7 | 4 | 1 | 1 | 2 | 3 | 4 | 6 | 11 | 8 | 10 | 4 | 7 | 6 | 6 | 7 | 0 | | | | | | | | | | | | | | | | |
| GT 11: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | | | | |
| 8. - 11: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 3 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | | | | | |
| 5. - 8: | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 38 | 51 | 17 | 0 | 2 | 3 | 1 | 9 | 0 | 134 | | | | | | | | | | | | | | |
| 3. - 5: | 5 | 2 | 0 | 0 | 0 | 1 | 16 | 35 | 86 | 128 | 37 | 9 | 3 | 23 | 36 | 26 | 0 | 407 | | | | | | | | | | | | | | | |
| 1. - 3: | 13 | 4 | 1 | 10 | 46 | 83 | 108 | 76 | 87 | 93 | 88 | 43 | 33 | 101 | 88 | 33 | 0 | 907 | | | | | | | | | | | | | | | |
| LT 1: | 31 | 16 | 23 | 21 | 47 | 35 | 54 | 33 | 32 | 53 | 81 | 33 | 35 | 27 | 49 | 43 | 0 | 613 | | | | | | | | | | | | | | | |
| TOTAL | 55 | 22 | 24 | 31 | 93 | 119 | 178 | 151 | 250 | 328 | 235 | 85 | 73 | 154 | 174 | 111 | 0 | 2083 | | | | | | | | | | | | | | | |
| PERCENT | 3. | 1. | 1. | 1. | 4. | 6. | 9. | 7. | 12. | 16. | 11. | 4. | 4. | 7. | 8. | 5. | 0. | 100. | | | | | | | | | | | | | | | |

0 = NO OBSERVATIONS

Table 1.3.10-7

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 30 METER LEVEL | | STATION AA23 PERIOD(12/01/82 TO 2/28/83) | | | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | | | |
|----------------|---|--|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----------------------------|-----|-----|-----|-----|-------|
| | | WIND DIRECTION | | | | | | | | | | | | | | | | | |
| | | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| WIND SPEED | | 9 | 5 | 1 | 2 | 3 | 4 | 6 | 9 | 15 | 11 | 14 | 6 | 10 | 8 | 8 | 10 | 0 | |
| MAX | | | | | | | | | | | | | | | | | | | |
| METERS/SEC | | | | | | | | | | | | | | | | | | | |
| GT 11. | : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 2 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 23 |
| 8. - 11. | : | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 26 | 32 | 11 | 0 | 2 | 1 | 1 | 9 | 0 | 87 |
| 5. - 8. | : | 6 | 1 | 0 | 0 | 0 | 0 | 6 | 16 | 41 | 98 | 35 | 5 | 3 | 10 | 14 | 14 | 0 | 249 |
| 3. - 5. | : | 5 | 4 | 0 | 0 | 2 | 16 | 55 | 57 | 96 | 121 | 33 | 13 | 11 | 51 | 52 | 23 | 0 | 539 |
| 1. - 3. | : | 10 | 4 | 3 | 9 | 27 | 68 | 72 | 71 | 56 | 51 | 39 | 33 | 57 | 66 | 69 | 38 | 0 | 673 |
| LT 1. | : | 20 | 18 | 24 | 23 | 23 | 28 | 39 | 27 | 32 | 27 | 44 | 37 | 53 | 28 | 59 | 30 | 0 | 512 |
| TOTAL | : | 42 | 27 | 27 | 32 | 52 | 112 | 172 | 175 | 258 | 331 | 176 | 88 | 126 | 156 | 195 | 114 | 0 | 2083 |
| PERCENT | : | 2. | 1. | 1. | 2. | 2. | 5. | 8. | 8. | 12. | 16. | 8. | 4. | 6. | 7. | 9. | 5. | 0. | 100. |

0 = NO OBSERVATIONS

Table 1.3.10-8

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

60 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(12/01/82 TO 2/28/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW |
| | 10 | 7 | 6 | 16 | 3 | 6 | 7 | 10 | 16 | 13 | 16 | 8 | 12 | 8 | 9 | 11 |
| GT 11. : | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 16 | 18 | 20 | 0 | 2 | 0 | 0 | 2 |
| 8. - 11. : | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 34 | 59 | 24 | 1 | 0 | 4 | 4 | 11 |
| 5. - 8. : | 12 | 4 | 1 | 0 | 0 | 1 | 5 | 23 | 55 | 121 | 44 | 6 | 3 | 14 | 21 | 14 |
| 3. - 5. : | 9 | 5 | 0 | 1 | 1 | 11 | 42 | 76 | 109 | 97 | 35 | 16 | 13 | 49 | 80 | 32 |
| 1. - 3. : | 22 | 10 | 10 | 18 | 23 | 44 | 69 | 57 | 72 | 58 | 35 | 35 | 67 | 75 | 87 | 48 |
| LT 1. : | 17 | 11 | 13 | 13 | 16 | 19 | 15 | 21 | 14 | 9 | 18 | 30 | 28 | 20 | 26 | 20 |
| TOTAL : | 66 | 30 | 24 | 33 | 40 | 75 | 131 | 182 | 300 | 362 | 176 | 88 | 113 | 162 | 218 | 127 |
| PERCENT | 3. | 1. | 1. | 2. | 2. | 4. | 6. | 9. | 14. | 17. | 8. | 4. | 5. | 8. | 10. | 6. |

0 = NO OBSERVATIONS

Table 1.3.10-9

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 10 METER LEVEL | | | | | | | | | | STATION AA23 PERIOD(3/01/83 TO 5/31/83) | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | | | | | | | |
|---------------------------------|--|--|----|----|----|----|----|----|-----|--|-----|-----|----|------------------------|-----|-----|-----|-----|------|----------------------------|--|--|--|--|--|--|--|--|--|
| WIND SPEED
MAX
METERS/SEC | | WIND DIRECTION | | | | | | | | | | | | W WNW NW NNW VAR TOTAL | | | | | | | | | | | | | | | |
| | | N NNE NE ENE E ESE SE SSE S SSW SW WSW W | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | 4 | 8 | 4 | 3 | 3 | 4 | 6 | 9 | 8 | 11 | 7 | 4 | 7 | 6 | 6 | 0 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GT 11. : | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | | | | | | | | | | |
| 8. - 11. : | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 4 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | | | | | | | | | | | |
| 5. - 8. : | | 2 | 0 | 0 | 0 | 0 | 0 | 6 | 44 | 69 | 38 | 5 | 0 | 3 | 13 | 15 | 0 | 195 | | | | | | | | | | | |
| 3. - 5. : | | 10 | 8 | 2 | 2 | 1 | 1 | 10 | 29 | 75 | 135 | 66 | 18 | 24 | 30 | 88 | 44 | 0 | 543 | | | | | | | | | | |
| 1. - 3. : | | 28 | 28 | 14 | 20 | 23 | 51 | 49 | 63 | 65 | 82 | 92 | 52 | 55 | 78 | 106 | 76 | 0 | 882 | | | | | | | | | | |
| LT 1. : | | 17 | 12 | 29 | 22 | 35 | 31 | 38 | 26 | 50 | 48 | 53 | 21 | 16 | 19 | 24 | 26 | 0 | 467 | | | | | | | | | | |
| TOTAL : | | 57 | 48 | 46 | 44 | 59 | 83 | 97 | 124 | 239 | 338 | 259 | 96 | 95 | 130 | 231 | 161 | 0 | 2107 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PERCENT | | 3. | 2. | 2. | 2. | 3. | 4. | 5. | 6. | 11. | 16. | 12. | 5. | 5. | 6. | 11. | 8. | 0. | 100. | | | | | | | | | | |

0 = NO OBSERVATIONS

Table 1.3.10-10

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 30 METER LEVEL | | STATION AA23 PERIOD(3/01/83 TO 5/31/83) | | | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | | | |
|---------------------------------|--|--|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----------------------------|-----|-----|-----|-----|-------|
| | | WIND DIRECTION | | | | | | | | | | | | | | | | | |
| | | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| WIND SPEED
MAX
METERS/SEC | | 7 | 11 | 7 | 5 | 4 | 4 | 6 | 9 | 12 | 11 | 15 | 11 | 10 | 6 | 10 | 10 | 0 | |
| | | | | | | | | | | | | | | | | | | | |
| GT 11. : | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 11 |
| 8. - 11. : | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 23 | 50 | 38 | 8 | 1 | 0 | 8 | 3 | 0 | 134 |
| 5. - 8. : | | 7 | 5 | 2 | 1 | 0 | 0 | 2 | 7 | 48 | 103 | 66 | 13 | 11 | 15 | 39 | 38 | 0 | 357 |
| 3. - 5. : | | 10 | 11 | 2 | 5 | 2 | 13 | 26 | 39 | 54 | 79 | 50 | 32 | 43 | 62 | 100 | 63 | 0 | 591 |
| 1. - 3. : | | 26 | 19 | 16 | 24 | 31 | 54 | 52 | 44 | 60 | 43 | 51 | 47 | 47 | 55 | 66 | 63 | 0 | 698 |
| LT 1. : | | 13 | 12 | 19 | 20 | 15 | 15 | 24 | 18 | 28 | 30 | 27 | 25 | 21 | 13 | 16 | 26 | 0 | 322 |
| TOTAL : | | 56 | 48 | 39 | 50 | 48 | 82 | 104 | 111 | 215 | 307 | 237 | 126 | 123 | 145 | 229 | 193 | 0 | 2113 |
| | | | | | | | | | | | | | | | | | | | |
| PERCENT | | 3. | 2. | 2. | 2. | 2. | 4. | 5. | 5. | 10. | 15. | 11. | 6. | 6. | 7. | 11 | 9. | 0. | 100. |

0 = NO OBSERVATIONS

Table 1.3.10-11

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 60 METER LEVEL | | STATION AA23 PERIOD(3/01/83 TO 5/31/83) | | | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | | | | | |
|---------------------------------|-------|--|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----------------------------|-----|-----|-----|-----|-------|--|--|
| | | WIND DIRECTION | | | | | | | | | | | | | | | | | | | |
| WIND SPEED
MAX
METERS/SEC | | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL | | |
| | | 8 | 7 | 12 | 6 | 5 | 4 | 7 | 10 | 14 | 12 | 16 | 15 | 7 | 11 | 10 | 11 | 0 | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| GT | 11. : | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 7 | 23 | 2 | 0 | 1 | 0 | 1 | 0 : | 41 | | |
| 8. - | 11. : | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 39 | 93 | 44 | 5 | 0 | 3 | 11 | 13 | 0 : | 216 | | |
| 5. - | 8. : | 12 | 5 | 5 | 1 | 1 | 0 | 11 | 18 | 45 | 103 | 70 | 18 | 18 | 17 | 51 | 37 | 0 : | 412 | | |
| 3. - | 5. : | 21 | 13 | 8 | 9 | 5 | 13 | 27 | 43 | 48 | 65 | 54 | 22 | 43 | 77 | 107 | 71 | 0 : | 626 | | |
| 1. - | 3. : | 33 | 20 | 14 | 18 | 26 | 42 | 48 | 56 | 53 | 48 | 35 | 54 | 44 | 48 | 63 | 58 | 0 : | 660 | | |
| LT | 1. : | 9 | 11 | 5 | 11 | 15 | 17 | 15 | 9 | 17 | 15 | 22 | 11 | 12 | 16 | 19 | 9 | 0 : | 213 | | |
| TOTAL | : | 77 | 49 | 33 | 39 | 47 | 72 | 101 | 132 | 208 | 331 | 248 | 112 | 117 | 162 | 251 | 189 | 0 | 2168 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| PERCENT | | 4. | 2. | 2. | 2. | 2. | 3. | 5. | 6. | 10. | 15. | 11. | 5. | 5. | 7. | 12. | 9. | 0. | 100. | | |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| | | STATION AA23 PERIOD(6/01/83 TO 8/31/83) | | | | | | | | | | CATHEDRAL BLUFFS SHALE | | | | | | |
|---------------------------------|-----|--|-----|----|----|-----|-----|-----|-----|-----|-----|------------------------|-----|-----|----|-----|-----|-------|
| | | WIND DIRECTION | | | | | | | | | | | | | | | | |
| | | N | NNE | NE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| WIND SPEED
MAX
METERS/SEC | | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 7 | 8 | 8 | 8 | 5 | 6 | 7 | 5 | 0 |
| GT | 11. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8.- | 11. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5.- | 8. | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23 | 90 | 29 | 8 | 1 | 10 | 6 | 2 | 0 |
| 3.- | 5. | 7 | 4 | 4 | 1 | 1 | 6 | 14 | 48 | 66 | 118 | 75 | 24 | 7 | 13 | 16 | 24 | 0 |
| 1.- | 3. | 42 | 16 | 13 | 26 | 61 | 111 | 141 | 92 | 77 | 99 | 132 | 40 | 30 | 34 | 66 | 52 | 0 |
| LT | 1. | 27 | 21 | 21 | 24 | 32 | 33 | 48 | 40 | 43 | 66 | 46 | 28 | 17 | 14 | 26 | 19 | 0 |
| TOTAL | | 76 | 42 | 38 | 51 | 95 | 150 | 203 | 182 | 209 | 375 | 285 | 101 | 55 | 71 | 114 | 97 | 0 |
| PERCENT | | 4. | 2. | 2. | 2. | 4. | 7. | 9. | 8. | 10. | 17. | 13. | 5. | 3. | 3. | 5. | 5. | 0 |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 30 METER LEVEL | | STATION AA23 PERIOD(6/01/83 TO 8/31/83) | | | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------|--|--|--|-----|--|----|--|-----|--|----|--|-----|--|----------------------------|--|-----|--|-----|--|-----|--|-----|--|-----|--|----|--|-----|--|-----|--|-----|--|-----|--|-------|--|
| | | WIND DIRECTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | N | | NNE | | NE | | ENE | | E | | ESE | | SE | | SSE | | S | | SSW | | SW | | WSW | | W | | WNW | | NW | | NNW | | VAR | | TOTAL | |
| WIND SPEED
MAX | | 6 | | 7 | | 5 | | 5 | | 7 | | 6 | | 7 | | 9 | | 12 | | 10 | | 12 | | 12 | | 7 | | 9 | | 10 | | 7 | | 0 | | | |
| METERS/SEC |  | ..... |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| GT 11. : | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 1 | | 0 | | 3 | | 1 | | 0 | | 0 | | 0 | | 0 | | 5 | | | |
| 8. - 11. : | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 2 | | 20 | | 69 | | 18 | | 3 | | 0 | | 10 | | 2 | | 0 | | 0 | | 124 | |
| 5. - 8. : | | 1 | | 1 | | 2 | | 1 | | 2 | | 5 | | 17 | | 36 | | 67 | | 103 | | 42 | | 11 | | 5 | | 10 | | 10 | | 11 | | 0 | | 324 | |
| 3. - 5. : | | 12 | | 11 | | 3 | | 5 | | 12 | | 51 | | 83 | | 55 | | 55 | | 90 | | 72 | | 28 | | 14 | | 23 | | 25 | | 26 | | 0 | | 565 | |
| 1. - 3. : | | 36 | | 14 | | 15 | | 27 | | 54 | | 101 | | 100 | | 57 | | 51 | | 45 | | 62 | | 34 | | 33 | | 37 | | 61 | | 44 | | 0 | | 771 | |
| LT 1. : | | 25 | | 17 | | 16 | | 13 | | 27 | | 25 | | 27 | | 23 | | 34 | | 33 | | 23 | | 33 | | 18 | | 12 | | 16 | | 16 | | 0 | | 358 | |
| TOTAL : | | 74 | | 43 | | 36 | | 46 | | 95 | | 182 | | 227 | | 173 | | 228 | | 340 | | 220 | | 110 | | 70 | | 92 | | 114 | | 97 | | 0 | | 2147 | |
| PERCENT |  | ..... |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | | 3. | | 2. | | 2. | | 2. | | 4. | | 8. | | 11. | | 8. | | 11. | | 16. | | 10. | | 5. | | 3. | | 4. | | 5. | | 5. | | 0. | | 100. | |

0 = NO OBSERVATIONS

Table 1.3.10-14

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 60 METER LEVEL | | STATION AA23 PERIOD(6/01/83 TO 8/31/83) | | | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | | | | | | | | | | | | | | | |
|---------------------------------|--|--|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----------------------------|----|-----|-----|-----|------|--|--|--|--|--|--|---|-----|----|-----|-----|-------|
| WIND SPEED
MAX
METERS/SEC | | WIND DIRECTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | | | | | | | | | | | | | W | WNW | NW | NNW | VAR | TOTAL |
| 6 | | 7 | 6 | 5 | 8 | 6 | 8 | 11 | 12 | 12 | 12 | 14 | 8 | 10 | 9 | 8 | 0 | | | | | | | | | | | | | | |
| GT 11. : | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 9 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | | | | | | | | | | | | |
| 8. - 11. : | | 0 | 0 | 0 | 1 | 0 | 3 | 12 | 42 | 93 | 22 | 6 | 1 | 12 | 4 | 1 | 0 | 197 | | | | | | | | | | | | | |
| 5. - 8. : | | 2 | 1 | 2 | 1 | 1 | 10 | 25 | 45 | 68 | 113 | 51 | 12 | 5 | 10 | 8 | 20 | 0 | 374 | | | | | | | | | | | | |
| 3. - 5. : | | 14 | 12 | 7 | 7 | 9 | 30 | 93 | 75 | 51 | 67 | 72 | 23 | 26 | 21 | 37 | 26 | 0 | 570 | | | | | | | | | | | | |
| 1. - 3. : | | 37 | 18 | 15 | 26 | 40 | 58 | 91 | 80 | 54 | 46 | 40 | 35 | 39 | 41 | 59 | 47 | 0 | 726 | | | | | | | | | | | | |
| LT 1. : | | 16 | 15 | 9 | 13 | 17 | 25 | 19 | 16 | 25 | 17 | 14 | 25 | 25 | 14 | 14 | 10 | 0 | 274 | | | | | | | | | | | | |
| TOTAL : | | 69 | 46 | 33 | 47 | 68 | 123 | 231 | 229 | 243 | 345 | 202 | 103 | 96 | 98 | 122 | 104 | 0 | 2159 | | | | | | | | | | | | |
| PERCENT | | 3. | 2. | 2. | 2. | 3. | 6. | 11. | 11. | 11. | 16. | 9. | 5. | 4. | 5. | 6. | 5. | 0. | 100. | | | | | | | | | | | | |

0 = NO OBSERVATIONS

Table 1.3.10-15

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

CATHEDRAL BLUFFS SHALE OIL

10 METER LEVEL

STATION AA23 PERIOD(9/01/83 TO 11/30/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW |
| | 5 | 4 | 3 | 2 | 3 | 2 | 3 | 4 | 9 | 9 | 10 | 8 | 6 | 7 | 8 | 8 |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 11 | 11 | 1 | 0 | 0 | 2 | 0 |
| 5. - 8. : | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 61 | 54 | 4 | 6 | 10 | 4 | 12 |
| 3. - 5. : | 11 | 5 | 1 | 0 | 1 | 0 | 5 | 19 | 62 | 147 | 91 | 23 | 13 | 26 | 35 | 35 |
| 1. - 3. : | 20 | 26 | 6 | 27 | 41 | 76 | 72 | 75 | 56 | 120 | 108 | 39 | 36 | 51 | 86 | 65 |
| LT 1. : | 24 | 18 | 24 | 38 | 32 | 33 | 45 | 26 | 51 | 81 | 64 | 28 | 23 | 18 | 21 | 21 |
| TOTAL : | 56 | 49 | 31 | 65 | 74 | 109 | 122 | 120 | 201 | 420 | 328 | 95 | 78 | 105 | 148 | 135 |
| PERCENT | 3. | 2. | 1. | 3. | 3. | 5. | 6. | 6. | 9. | 20. | 15. | 4. | 4. | 5. | 7. | 6. |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

30 METER LEVEL

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD(9/01/83 TO 11/30/83)

| WIND SPEED
MAX
METERS/SEC | WIND DIRECTION | | | | | | | | | | | | | | | | | |
|---------------------------------|----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| 7 | 5 | 3 | 3 | 3 | 5 | 5 | 5 | 8 | 12 | 14 | 15 | 11 | 9 | 10 | 12 | 12 | 0 | |
| GT 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 15 | 7 | 1 | 0 | 0 | 3 | 1 | 0 | 32 |
| 8. - 11. : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 29 | 45 | 32 | 2 | 4 | 5 | 6 | 5 | 0 | 129 |
| 5. - 8. : | 3 | 2 | 0 | 0 | 1 | 1 | 1 | 22 | 47 | 152 | 63 | 16 | 12 | 22 | 14 | 15 | 0 | 371 |
| 3. - 5. : | 13 | 6 | 1 | 1 | 6 | 20 | 36 | 40 | 64 | 80 | 44 | 21 | 21 | 47 | 62 | 41 | 0 | 503 |
| 1. - 3. : | 36 | 16 | 11 | 27 | 31 | 68 | 70 | 54 | 56 | 56 | 44 | 39 | 33 | 38 | 63 | 43 | 0 | 685 |
| LT 1. : | 24 | 18 | 18 | 22 | 19 | 30 | 34 | 37 | 45 | 33 | 39 | 27 | 24 | 21 | 17 | 25 | 0 | 433 |
| TOTAL : | 76 | 42 | 30 | 50 | 57 | 119 | 141 | 154 | 246 | 381 | 229 | 106 | 94 | 133 | 165 | 130 | 0 | 2153 |
| PERCENT | 4. | 2. | 1. | 2. | 3. | 6. | 7. | 7. | 11. | 18. | 11. | 5. | 4. | 6. | 8. | 6. | 0. | 100. |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 60 METER LEVEL | | STATION AA23 PERIOD(9/01/83 TO 11/30/83) | | | | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | |
|----------------|--|---|-----|----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----------------------------|-----|------------|
| | | WIND DIRECTION | | | | | | | | | | | | | | | |
| | | N | NNE | NE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR TOTAL |
| WIND SPEED | | 8 | 6 | 4 | 2 | 6 | 6 | 6 | 9 | 14 | 16 | 16 | 12 | 10 | 11 | 13 | 12 0 |
| MAX | | | | | | | | | | | | | | | | | |
| METERS/SEC | | | | | | | | | | | | | | | | | |
| GT 11. : | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 34 | 9 | 1 | 0 | 1 | 2 | 2 | 0 : 60 |
| 8. - 11. : | | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 45 | 72 | 43 | 6 | 10 | 7 | 5 | 8 | 0 : 200 |
| 5. - 8. : | | 4 | 5 | 0 | 0 | 1 | 1 | 2 | 27 | 59 | 156 | 57 | 10 | 11 | 25 | 23 | 26 0 : 407 |
| 3. - 5. : | | 14 | 6 | 2 | 0 | 6 | 16 | 38 | 60 | 60 | 59 | 43 | 30 | 26 | 43 | 70 | 46 0 : 519 |
| 1. - 3. : | | 35 | 13 | 12 | 15 | 21 | 44 | 57 | 67 | 61 | 66 | 36 | 29 | 40 | 41 | 57 | 42 0 : 636 |
| LT 1. : | | 21 | 9 | 13 | 14 | 23 | 23 | 28 | 28 | 29 | 27 | 24 | 26 | 19 | 22 | 23 | 13 0 : 342 |
| TOTAL : | | 75 | 33 | 27 | 29 | 51 | 84 | 125 | 185 | 265 | 414 | 212 | 102 | 106 | 139 | 180 | 137 0 2164 |
| PERCENT | | 3. | 2. | 1. | 1. | 2. | 4. | 6. | 9. | 12. | 19. | 10. | 5. | 5. | 6. | 8. | 6. 0. 100. |

0 = NO OBSERVATIONS

Table 1.3.10-18

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 10 METER LEVEL | | STATION AA23 PERIOD(12/01/82 TO 11/30/83) | | | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | | | |
|-------------------|--|---|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|----------------------------|-----|-----|-----|-----|-------|
| | | WIND DIRECTION | | | | | | | | | | | | | | | | | |
| | | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL |
| WIND SPEED
MAX | | 7 | 5 | 8 | 4 | 5 | 4 | 4 | 6 | 11 | 9 | 11 | 8 | 7 | 7 | 8 | 8 | 0 | |
| METERS/SEC |  | ..... |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| GT 11. : | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 8. - 11. : | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 14 | 20 | 35 | 2 | 0 | 0 | 2 | 2 | 0 | 76 |
| 5. - 8. : | | 9 | 1 | 0 | 0 | 1 | 0 | 0 | 15 | 133 | 271 | 138 | 17 | 9 | 26 | 24 | 38 | 0 | 682 |
| 3. - 5. : | | 33 | 19 | 7 | 3 | 3 | 8 | 45 | 131 | 289 | 528 | 269 | 74 | 47 | 92 | 175 | 129 | 0 | 1852 |
| 1. - 3. : | | 103 | 74 | 34 | 83 | 171 | 321 | 370 | 306 | 285 | 394 | 420 | 174 | 154 | 264 | 346 | 226 | 0 | 3725 |
| LT 1. : | | 99 | 67 | 97 | 105 | 146 | 132 | 185 | 125 | 176 | 248 | 244 | 110 | 91 | 78 | 120 | 109 | 0 | 2132 |
| TOTAL : | | 244 | 161 | 139 | 191 | 321 | 461 | 600 | 577 | 899 | 1461 | 1107 | 377 | 301 | 460 | 667 | 504 | 0 | 8470 |
| PERCENT | | 3. | 2. | 2. | 2. | 4. | 5. | 7. | 7. | 11. | 17. | 13. | 4. | 4. | 5. | 8. | 6. | 0. | 100. |

0 = NO OBSERVATIONS

Table 1.3.10-19

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

| 30 METER LEVEL | | | | | | | | | | STATION AA23 PERIOD(12/01/82 TO 11/30/83) | | | | | | | | | | CATHEDRAL BLUFFS SHALE OIL | | | | | | | | | |
|---------------------------------|--|----------------|-----|-----|-----|-----|-----|-----|-----|---|------|-----|-----|-----|-----|-----|-----|-----|-------|----------------------------|--|--|--|--|--|--|--|--|--|
| WIND SPEED
MAX
METERS/SEC | | WIND DIRECTION | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | VAR | TOTAL | | | | | | | | | | |
| | | 9 | 11 | 7 | 5 | 7 | -6 | 7 | 9 | 15 | 14 | 15 | 12 | 10 | 10 | 12 | 12 | 0 | | | | | | | | | | | |
| GT 11. : | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 19 | 29 | 3 | 0 | 0 | 3 | 1 | 0 | 71 | | | | | | | | | | |
| 8. - 11. : | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 98 | 196 | 99 | 13 | 7 | 16 | 17 | 17 | 0 | 474 | | | | | | | | | | |
| 5. - 8. : | | 17 | 9 | 4 | 2 | 3 | 6 | 26 | 81 | 203 | 456 | 206 | 45 | 31 | 57 | 77 | 78 | 0 | 1301 | | | | | | | | | | |
| 3. - 5. : | | 40 | 32 | 6 | 11 | 22 | 100 | 200 | 191 | 269 | 370 | 199 | 94 | 89 | 183 | 239 | 153 | 0 | 2198 | | | | | | | | | | |
| 1. - 3. : | | 108 | 53 | 45 | 87 | 143 | 291 | 294 | 226 | 223 | 195 | 196 | 153 | 170 | 196 | 259 | 188 | 0 | 2827 | | | | | | | | | | |
| LT 1. : | | 82 | 65 | 77 | 78 | 84 | 98 | 124 | 105 | 139 | 123 | 133 | 122 | 116 | 74 | 108 | 97 | 0 | 1625 | | | | | | | | | | |
| TOTAL : | | 248 | 160 | 132 | 178 | 252 | 495 | 644 | 613 | 947 | 1359 | 862 | 430 | 413 | 526 | 703 | 534 | 0 | 8496 | | | | | | | | | | |
| PERCENT | | 3. | 2. | 2. | 2. | 3. | 6. | 8. | 7. | 11. | 16. | 10. | 5. | 5. | 6. | 8. | 6. | 0. | 100. | | | | | | | | | | |

0 = NO OBSERVATIONS

FREQUENCY TABLE OF WIND SPEED BY DIRECTION

CATHEDRAL BLUFFS SHALE OIL

STATION AA23 PERIOD 12/01/82 TO 11/30/83)WIND DIRECTION

| WIND SPEED | | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | TOTAL |
|------------|---|----|-----|----|-----|---|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-------|
| 10 | 7 | 12 | 16 | 8 | 6 | 8 | 11 | 16 | 16 | 16 | 16 | 15 | 12 | 11 | 13 | 12 | 0 | |

| | | | | | | | | | | | | | | | | | | | | |
|---------|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|----|--------|
| Y | 11. | : | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 36 | 68 | 55 | 5 | 2 | 2 | 2 | 5 | 0 | : 178 |
| - | 11. | : | 9 | 0 | 0 | 0 | 1 | 0 | 3 | 26 | 160 | 317 | 133 | 18 | 11 | 26 | 24 | 33 | 0 | : 761 |
| - | 8. | : | 30 | 15 | 8 | 2 | 3 | 12 | 43 | 113 | 227 | 493 | 222 | 46 | 37 | 66 | 103 | 97 | 0 | : 1517 |
| - | 5. | : | 58 | 36 | 17 | 17 | 21 | 70 | 200 | 254 | 268 | 288 | 204 | 91 | 108 | 190 | 294 | 175 | 0 | : 2291 |
| - | 3. | : | 127 | 61 | 51 | 77 | 110 | 188 | 265 | 260 | 240 | 218 | 146 | 153 | 190 | 205 | 266 | 195 | 0 | : 2752 |
| Y | 1. | : | 63 | 46 | 40 | 51 | 71 | 84 | 77 | 74 | 85 | 68 | 78 | 92 | 84 | 72 | 82 | 52 | 0 | : 1119 |
| TOTAL | | : | 287 | 158 | 117 | 148 | 206 | 354 | 588 | 728 | 1016 | 1452 | 838 | 405 | 432 | 561 | 771 | 557 | 0 | 8618 |
| PERCENT | | | | | | | | | | | | | | | | | | | | |
| | | | 3. | 2. | 1. | 2. | 2. | 4. | 7. | 8. | 12. | 17. | 10. | 5. | 5. | 7. | 9. | 6. | 0. | 100. |

0 = NO OBSERVATIONS

1.4 Noise

No noise measurements are being collected during the Interim Monitoring Period.

1. The first part of the report is a general introduction to the subject of the investigation.

